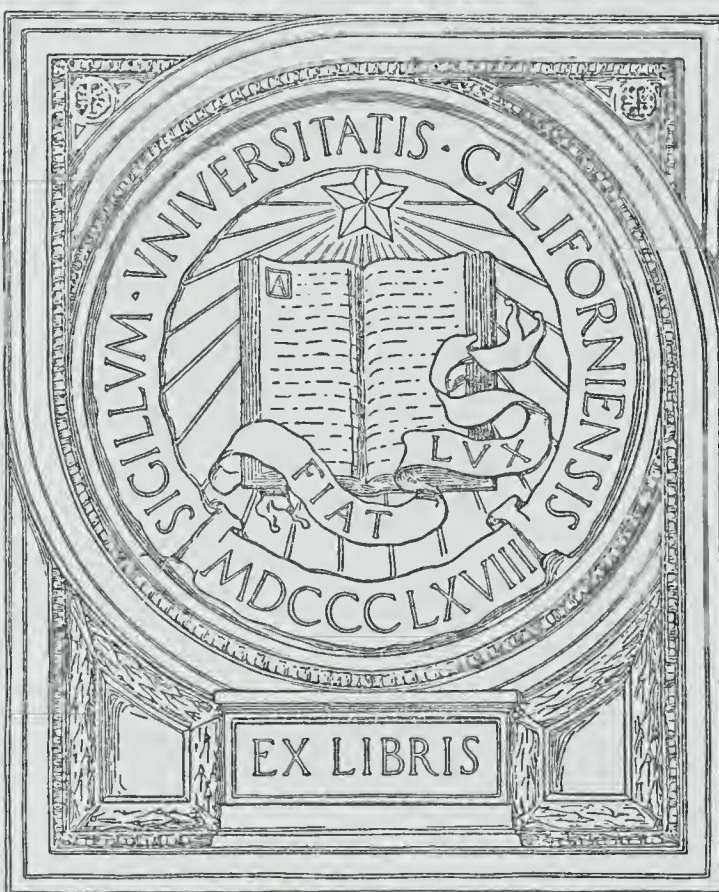






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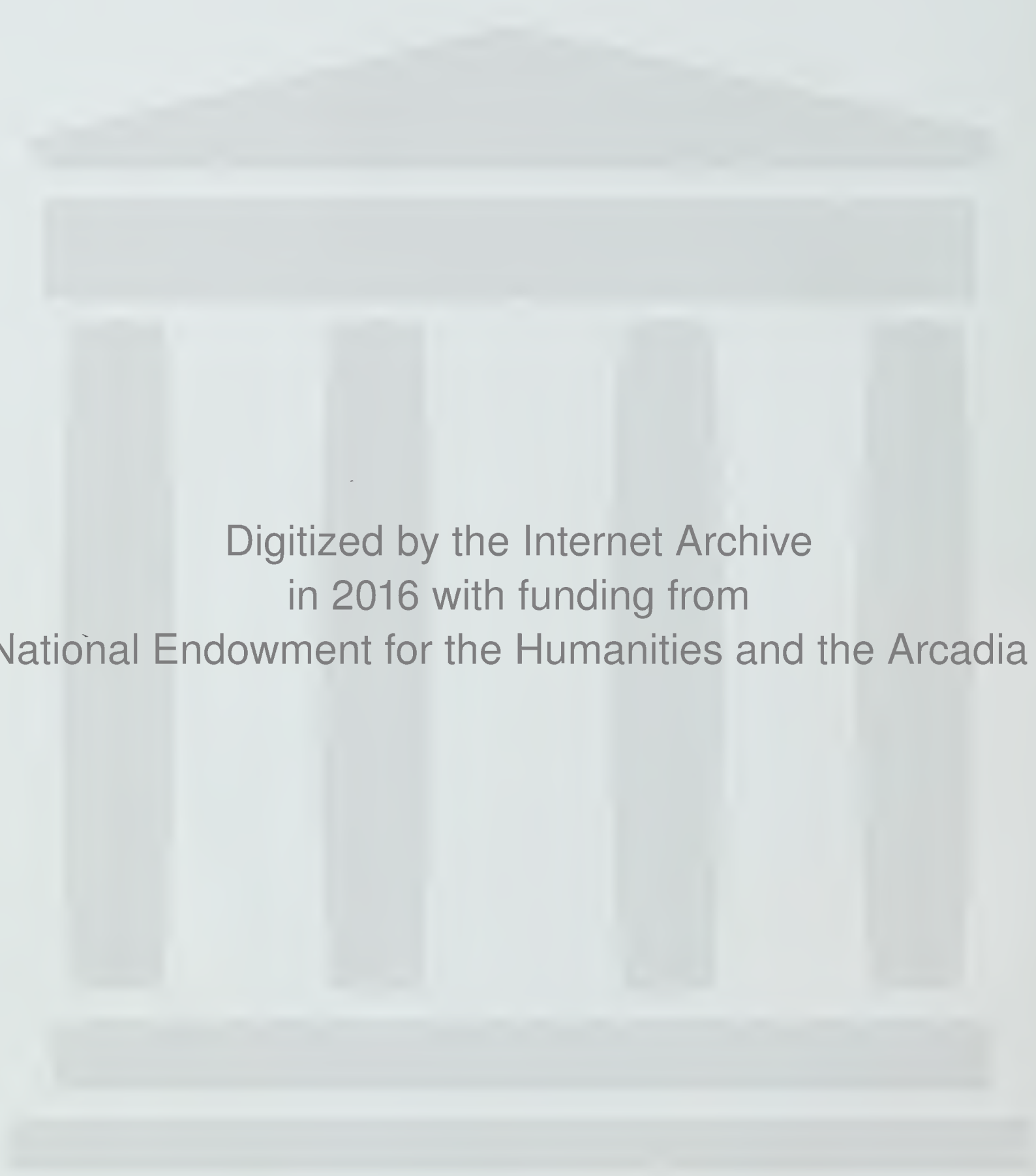




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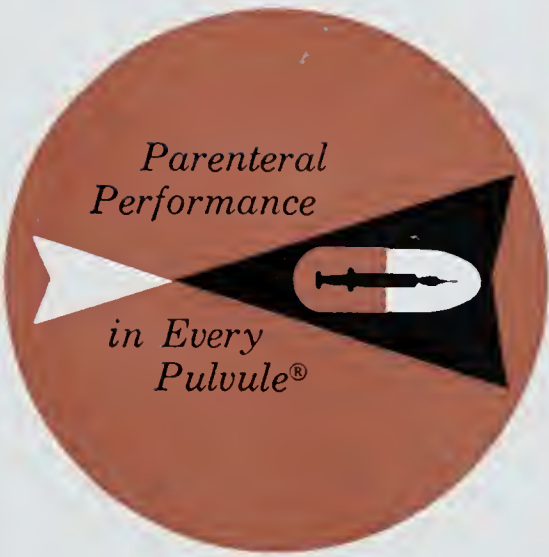
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# THE JOURNAL

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## GENERAL PRINCIPLES OF MANAGEMENT OF ABDOMINAL TRAUMA

JULIAN K. QUATTLEBAUM, M. D., F. A. C. S.

Savannah, Georgia

The ever increasing industrial expansion, the widespread use of mechanized farm machinery, the growing use of mechanical appliances about the home, and the alarming increase in the number of automobile accidents all serve to place the surgery of trauma in a role constantly increasing in importance. Accumulated statistics show that accidents lead as the cause of death to the age of 30 (Walter Reed Army Institute of Research). In some general hospitals approximately half the admissions to the surgical service are the results of accidents and 50 per cent of these admissions are vehicular in origin.<sup>1</sup> Industrial accidents, athletic injuries, falls, kicks, blows, and the conventional Saturday night shootings and stabbings, together with accidents received in and about the home, make up the remainder. Included are many bizarre experiences, such as being gored by a milk cow or run over by a motorboat.

The mortality rate of serious abdominal injuries may approach 30 per cent and is in direct proportion to the severity and duration of the shock-state.<sup>2</sup> The number of viscera involved contributes to this. With a single organ injured, the mortality rate should be less than 10 per cent; whereas, with multiple viscera involved, the rate may be more than 30 per cent.<sup>2</sup> The frequent occurrence of concomitant injuries to the head, neck, chest and skeletal system also contributes to the state of shock and to the mortality rate. The time elapsing between injury and operation, formerly such a major factor, is still important, but less so since the introduction of the use of effective antibiotics and chemotherapy. The age of the victim

is important.<sup>3</sup> The spleen and kidneys in children are more easily injured following blunt trauma. Older patients are less able to tolerate blood loss, even for short periods of time. Therefore, early evaluation is extremely necessary in this group.

Approximately two thirds of the fatalities from abdominal trauma may be attributed directly to hemorrhagic shock. Peritonitis, heretofore such a hazard, is responsible perhaps for no more than 10 per cent of the deaths. Another 10 per cent of the deaths result from pulmonary complications in spite of efforts to avoid atelectasis, prevent emboli and combat infection. The remaining 10 per cent of the fatalities result from associated injuries, intestinal obstruction, delayed hemorrhage, wound dehiscence and overlooked or untreated injuries.<sup>2</sup> The fixed organs, liver, spleen and kidneys, receive about 70 per cent of the instances of visceral damage, while the non-fixed organs, the small bowel, bladder and the miscellaneous organs, are involved in about 20 per cent. The abdominal wall itself suffers severe damage in some 10 per cent of the instances. Specific visceral injuries have no peculiar lethal effect except as related to the extent of the trauma and blood loss.

Many accidents on highways occur in remote and out of the way places. The victims are usually given first aid by inexperienced persons whose enthusiasm may lead them to do more harm than good. The establishment of an open airway and the control of bleeding with pressure dressings rather than tourniquets, carried out with a minimum of handling, are about all that can be accomplished at the site of the injury. Frequently the injured are rushed to the nearest hospital, which is likely to be a small community institution

Read before the Alabama Chapter, American College of Surgeons, Point Clear, February 13, 1959.

1. Ferguson, Ira A.: Personal Communication.

2. Imes, Pat R.: The Emergency Management of Abdominal Trauma, S. Clin. North America 36: 1289 (October) 1956.

3. Martin, John D., Jr., and Charles P. Adams: Multiple Non-Penetrating Wounds of the Abdomen, South. M. J. 51: 62 (January) 1958.



staffed by men who are not primarily surgeons and who have neither the time, experience, assistance nor the equipment to care for such responsibility. Under these circumstances it is better to combat shock vigorously, control obvious bleeding, splint fractures, administer antibiotics, and transport the patient to a facility where adequate definitive care can be carried out. Accidents occurring in cities may result in the injured being admitted to a hospital so promptly that evidence of severe internal injury may not have had time to develop. Every person involved in a serious accident should be kept under observation until the possibilities are fully known.<sup>4</sup>

Measures for resuscitation are instituted or continued immediately upon arrival in the general hospital. A detailed history of the injury and as thorough an examination as the condition of the patient warrants are carried out. The examination should not be too time consuming nor require much moving or turning of the patient. X-ray studies of the abdomen and chest, and such laboratory procedures as are indicated, are made while resuscitation takes place. The really significant factor is shock. Effective measures to combat shock, careful appraisal of the injury, and efforts to determine the location and extent of the injury accurately are mandatory. The use of whole blood in adequate amounts is the sheet anchor in resuscitation. The amount and rate of whole blood transfusion are determined by the severity of shock and the rapidity with which it responds to treatment. Anywhere from two to 20 units of blood may be needed over a period of a few hours, and in some severely injured patients resuscitation may be impossible and immediate operation to stop hemorrhage or peritoneal contamination is imperative.

The diagnosis of intra-abdominal injury may be most difficult as symptoms may be entirely lacking initially.<sup>5</sup> A high index of suspicion in every accident case is a valuable aid. Any patient who has suffered trauma to the abdomen, who while under observation continues to have persistent pain, spasm or tenderness with or without nausea or vomiting, should be considered to have internal injury. If these symptoms persist, exploratory laparotomy is compulsory. The necessity for early exploration of the injured abdomen before every evidence of its necessity is at hand should be emphasized. Irreversible complications may develop with great speed, and these are handled best be-

fore they appear, not after they are obvious.<sup>6</sup>

The foremost and probably the most significant diagnostic procedure is the frequent and repeated examination of the abdomen by the same observer. Vital signs must be recorded accurately, and the first indication that intra-abdominal injury exists in addition to other injuries may be when the blood pressure begins to fall. A progressive increase in the pulse rate may be the first indication of persistent blood loss. In addition to roentgenograms of the chest and abdomen, minimal laboratory examinations should include hemoglobin, hematocrit, white blood count, urinalysis and serum amylase. Diagnostic paracentesis in some instances may be helpful, but generally its usefulness is limited, and a negative test means nothing in the presence of other signs and symptoms. It must be remembered that penetrating wounds of the chest, back, buttocks and perineum, as well as those of the abdominal wall, may extend into the peritoneal cavity. Positive physical signs should never be made secondary to any laboratory procedures in arriving at the diagnosis of visceral injury.

Only those injuries which interfere with cardio-respiratory function should have precedence over those of the abdomen. In general, it can be stated that in multiple wounds the order of treatment should place those of the chest, neck and maxillo-facial regions which interfere with respiration first, followed in order by those which affect the abdomen, brain and spinal cord, genitourinary systems and eye.

Exploration of the injured abdomen is indicated in every case of penetrating wound; where there is evidence of bleeding or of a ruptured viscus; when there is evidence of kidney damage with extravasation; when unexplained abdominal pain or rigidity persists, or when it cannot be assumed positively that any of the above indications are absent.

When resuscitation has reached the stage when no further improvement of the patient's condition is considered likely, or if it has been of no avail, operation should be undertaken without further delay. Preparation for surgery should include in every instance procurement of an adequate amount of whole blood, an operating room set up to include instruments and supplies for every eventuality, a competent anesthetist and trained assistants, so that exploration may be carried out without haste, avoiding annoying delays while some necessary piece of apparatus or instrument is sought.

4. Penberthy, Grover C., and Reiners, Charles R.: Non-Penetrating Injuries of the Abdomen, *S. Clin. North America* 33: 1179, 1953.

5. Helsper, James T.: Non-Perforating Wounds of the Abdomen, *Am. J. Surg.* 90: 580, 1955.

6. Penberthy, Grover C.: Non-Penetrating Wounds of the Abdomen, *Harper Hospital Bull.* 11: 161 (July-August) 1953.



Strict adherence to certain fundamentals are important:

- (1) Adequate exposure through properly placed incisions.
- (2) Control of bleeding.
- (3) Thorough and systematic examination of all possible viscera involved.
- (4) Accurate closure of all wounds of hollow viscera.
- (5) Excision of all nonviable tissue and removal of foreign bodies.
- (6) Drainage of contaminated retroperitoneal spaces. There is ample evidence that a frequent cause of death following operation for penetrating wounds of the abdomen is overlooked perforation of the intestine. This should not influence one to prolong the exploration unnecessarily. It should be done systematically and with dispatch, avoiding repeated examinations of the same viscera.

## INJURIES TO INDIVIDUAL VISCERA

### BLOOD VESSELS:

Over a five-year period, 0.75 per cent of all admissions to the surgery service of the Grady Hospital (Atlanta) had major arterial injuries.<sup>1</sup> Injuries to the great vessels within the abdomen usually result in death before treatment can be instituted. Massive transfusions, and the use of plastic substitutes, may make the repair of a major vessel possible in the occasional case. However, in ligating large vessels in the mesentery for the control of bleeding, one must be sure of the collateral circulation, or resect the involved bowel.

### SPLEEN:

The spleen is damaged in about one fourth of the visceral injuries. The problem is that of concealed bleeding. Left upper quadrant pain, tenderness and rigidity, elevation of the left diaphragm, with increased soft tissue density on the roentgenograms, should establish the diagnosis. Immediate splenectomy is the ideal treatment, even if there is evidence that the bleeding is not active, as delayed rupture may occur with high mortality.<sup>3</sup>

### LIVER:

The liver is injured only slightly less frequently than the spleen. The right lobe is fractured about three times as often as the left. There are frequently associated injuries of other viscera. Treatment of the wound of the liver varies with the extent and character of the liver damage. Small incised penetrating or perforating wounds of the liver possess a pronounced capacity to heal, although a small wound may bleed profusely or drain bile in large amounts. Simple closure by suture is recommended as the treatment of choice

for small incised wounds. Bullet holes may be treated by adequate drainage alone, following plugging of the wound with gelatin sponge. Massive wounds of the liver present problems in the control of bleeding. Packing the wound with gauze may be necessary, but should be avoided if possible because of the high incidence of infection associated with the use of gauze packs, and the liver damage resulting from sustained pressure, and the possibility of secondary hemorrhage upon removal of the pack. The removal of badly damaged or devitalized fragments of liver tissue is an important objective, but in many instances debridement of the liver wound may be difficult or not feasible. Probably the most important factor in the operative management of liver injuries is the free and extensive use of drains. This is especially true if packs are used, or when associated injuries to the colon or pancreas are present. Conventional drainage with one or two pieces of rubber tubing will not suffice. Intrahepatic drains should be employed in deep wounds in the liver substance to avoid subsequent development of a closed cavity and possible massive hemobilia.<sup>7</sup> It is well to remember that the chemical peritonitis associated with extensive liver destruction and biliary contamination of the peritoneal cavity may be associated with great loss of sodium chloride, and the hypotension which occurs should be treated not only with blood replacement but also with large quantities of saline solution. The well known fact that the liver may harbor anaerobic bacteria, and the marked tendency for mixed infections to develop in necrotic liver tissue, make very aggressive antibiotic therapy essential. The use of thoracoabdominal incisions to give adequate exposure to stellate fractures of the dome of the liver, and for the removal of small foreign bodies within the liver substance, is still not fully appreciated generally.

Complications in patients who have suffered wounds of the liver are largely related to the extent of the hepatic damage and the number and type of associated injuries, and include recurrent hemorrhage, infection, abscess formation, and the drainage of bile.

### PANCREAS:

The pancreas may be injured from either penetrating or non-penetrating abdominal trauma. Contusions of the abdomen by being thrown against the steering wheel are the most frequent type of injury. The fixed position of the pancreas near the vertebral column makes it especially vulnerable to blunt force applied to the upper abdomen. The symptoms may be vague and completely

7. Sparkman, Robert S.: Massive Hemobilia Following Traumatic Rupture of the Liver, *Ann. Surg.* 138: 899.



overshadowed by associated injuries, or pancreatic trauma may be accompanied by pain of greatest severity and abdominal tenderness. Associated injuries to the liver are frequently present, and the escape of the bile from the liver increases the digestive activity of the pancreatic enzymes. Control of hemorrhage and provision for liberal drainage are the essentials of treatment. Removal of the fragmented tissue may be necessary, and correction of the physiologic disturbances which may follow, such as alterations in calcium and carbohydrate metabolism, and the fluid and electrolyte balance require attention.

#### KIDNEY AND URETER:

Injuries to the kidney and ureter usually present less dramatic and less threatening emergencies. Flank tenderness, a palpable mass with evidence of extending hemorrhage, blood in the urine, are indications for intravenous urograms. Extensive injuries to the renal pelvis and the ureter or a badly damaged kidney may require removal of the organ. Lacerations and perforations of the kidney can be treated conservatively. Large perirenal hematoma must be evacuated. The immediate care of these injuries usually falls to the general surgeon rather than the urologist.

#### THE GASTROINTESTINAL TRACT:

Injuries to the gastrointestinal tract occur in some 20 per cent of instances with a gross mortality of up to 17 per cent. Penetrating wounds of the abdomen cause injury to the gastrointestinal tract more frequently than non-penetrating injuries. Any part of the gastrointestinal tract may suffer perforations. The esophagus is subject to trauma at the level of the diaphragmatic hiatus. Lacerations or rupture at this level will usually produce emphysema in the neck and pneumothorax. The stomach rarely suffers rupture, but is frequently perforated in penetrating wounds of the abdomen. Perforations are most often multiple, difficult to expose and close, but none should be overlooked. The duodenum is ruptured more often than is commonly supposed, and is subject to both penetrating and non-penetrating abdominal trauma. Rupture occurs when sudden unexpected force from front or rear strikes the relaxed abdomen with the pylorus closed and the duodenojejunal angle flexed, causing an air pocket within the duodenum over the spinal column. Rupture practically always occurs in the second or third portion of the duodenum, and not infrequently the lesion is retroperitoneal. Mortality may approach 90 per cent. Alertness to this possibility and early recognition of the lesion will greatly reduce this figure. Associated non-abdominal injuries frequently contribute to delayed recognition. Repeated roentgenograms of the abdomen are of the greatest importance and will eventually show

retroperitoneal air infiltration.<sup>8</sup> A swallow of iodized oil may be helpful in demonstrating extravasation and is a harmless procedure. Wide exposure is essential, and repair may be difficult. Retroperitoneal drainage is most necessary and subsequent complications, such as subphrenic, subhepatic abscess, or duodenal fistula, may develop. Wounds of the small intestine are usually multiple. Perforations near each other require resection of the damaged bowel, rather than individual closure. The same applies if the bowel is badly damaged, or if the mesentery is so traumatized as to compromise the vascularity of the intestine. The decision to resect the bowel rather than attempt repair of the openings should be made promptly and not after considerable time has been spent in fruitless efforts to avoid it. If there is any doubt, it is wiser to resect. Complete rupture may be single or multiple and usually takes place at or near the fixed area of the intestine. Serious hemorrhage may be associated with concomitant tears or detachment of the mesentery. Secondary perforation following incomplete tear of the mucosa may delay recognition of the seriousness of the conditions. The common-place features of small bowel rupture from non-penetrating trauma are evidence of spreading peritonitis, indicated by pain, tenderness and rigidity. Localizing signs may be slow in developing.

#### LARGE BOWEL:

As a general rule, staged procedures are much safer in the management of injuries to the colon and rectum than are primary methods. There is ample evidence, however, that properly selected wounds of the colon may be sutured primarily with a lower mortality rate and less morbidity. The more extensive injuries of the colon and its mesentery, in which the status of its viability is in doubt, which might appear to indicate resection of the segment and anastomosis are better managed by exteriorization of the segment. Extensive wounds of the rectum are best treated with a proximal diversionary colostomy. Exteriorization of the injured cecum and ascending colon, however, should be avoided if possible. Resection of the damaged bowel, with immediate ileocolostomy or suture of the wounds of the bowel with complementary cecostomy, is preferable. If both large and small bowel are involved, definitive treatment done on the small bowel with colostomy, plus the removal of the damaged colon, is in order.

#### BLADDER INJURIES:

Bladder injuries occur so commonly in automobile accidents that, with any suspicion of pelvic injury, a catheter should be passed into the blad-

8. Speling, L., and Rigler, T. G.: Traumatic Retroperitoneal Rupture of the Duodenum, *Radiology*, 29: 521, 1937.



der and a cystogram made.<sup>9</sup> Evaluation can be made accurately from this study. The large majority of bladder injuries are associated with fractures of the bony pelvis, although the full bladder may be ruptured by direct or indirect force over the abdomen. The constant desire to void is perhaps the most characteristic sign of bladder injury. Bladder wounds should be sutured with catgut, and either a suprapubic cystostomy done or an indwelling catheter inserted. Contaminated soft tissues should be adequately drained. Bladder neck injuries, with separation from the urethra, are most difficult to manage, but the use of Ather-ton sutures as described by Chute<sup>10</sup> aid in the anastomosis.

DIAPHRAGM:

Rupture of the diaphragm may occur with any serious injury, and this possibility should be kept constantly in mind. Roentgenograms of the thorax usually establish the diagnosis. Prompt repair is mandatory, and the abdominal route gives satis-

factory exposure and permits thorough exploration and the correction of any additional injuries encountered.

SUMMARY

More serious intra-abdominal injuries can be expected with the increasing number of accidents.

The possibility of intra-abdominal injury should be constantly kept in mind, although symptoms may be absent initially.

The diagnosis of intra-abdominal injury may be difficult. Exploratory laparotomy should be carried out if any doubt exists.

The greatest mortality factor is the state and duration of shock. Better results depend on early and vigorous resuscitative measures.

Treatment of intra-abdominal injuries should receive precedence over injuries in other parts of the body.

Strict adherence to established fundamentals is essential for success of technical procedures employed.

In no other field of surgery is there required a greater degree of skill, judgment and ingenuity than in the management of serious abdominal trauma.

9. Volk, William L., and Arthur W. Woodward: Emergency Management of Genitourinary Injuries, S. Clin. North America 36: 1373 (October) 1956.

10. Chute, R.: Radical Retropubic Prostatectomy, J. Urol. 71: 3, 369 (March) 1955.

DUODENAL OBSTRUCTION DUE TO INCOMPLETE ROTATION OF THE BOWEL

JAMES H. ERWIN, M. D.

Mobile, Alabama

Of all causes of duodenal obstruction in infants and children, none is more amenable to surgery than that caused by incomplete rotation of the bowel. The existence of this condition and its background must be kept in mind.

Until the 10th week of fetal life the greater part of the gastrointestinal tract is contained in the umbilical cord. About this time there is a proportionate growth of the size of the abdominal cavity, and the midgut begins to move back into the abdomen. As this movement takes place, a rotation of the midgut occurs, with the superior mesenteric artery as an axis. This rotation is in a counter-clockwise direction so that the ceco-colic area starts its rotation in an inferior position and moves to the left side, upward, over the vessel and ultimately becomes fixed in the right lower quadrant. The duodeno-jejunal junction starts in a superior position and moves downward, to the right, and under the vessel so that it becomes fixed after a

rotation of 270 degrees. The twisting of a loop of garden hose is a simple comparison. This process of rotation may stop at any point along its normal course. If the rotation is incomplete, the small bowel occupies most of the anterior and right abdominal cavity and the entire colon is usually found on the left side of the abdomen. The cecum and appendix are usually located in the upper abdomen. In spite of this abnormal position of the cecum, the bowel attempts to fix itself to the abdominal wall and this results in thin adhesive bands extending between the region of the cecum and the posterior parietal abdominal wall. These bands cross the duodeno-jejunal area and exert varying degrees of pressure on the duodenum so that incomplete obstruction may exist. In addition to this duodenal obstruction, there is a narrowing of the duodeno-colic isthmus so that volvulus of the small bowel may occur. Duodenal obstruction and midgut volvulus are the most common complications of incomplete rotation of the bowel. Other complications may occur but these are beyond the scope of this paper.

Read before the Alabama Chapter, American College of Surgeons, Point Clear, February 13, 1959.



## DUODENAL OBSTRUCTION

The onset of symptoms in most cases is in the first month of life. While the majority of these cases show symptoms in the first week, a smaller number may develop chronic or recurrent symptoms in later life. The most frequent symptoms, in order, are vomiting, distention, and passage of bloody stools. In most instances vomiting will be the outstanding symptom and the vomitus will be bile stained. The child will often retain part of its food. Severe abdominal distention is usually associated with volvulus of the midgut. Vomiting is also associated with this latter condition and may be due to the bands extending across the duodenum or may be due to the twisted mesentery causing duodenal compression. Hematemesis or melena may be present in a small percentage of cases.

Other than abdominal distention there is nothing on physical examination to aid in the diagnosis. X-ray examinations are of inestimable value. A plain film of the abdomen may show a stomach distended with gas and may show air in the duodenum. This is a valuable diagnostic point. In addition, there will be some air, as a general rule, in the remainder of the intestinal tract. An upper

G. I. series will show a dilated stomach and a dilated duodenum filled with radio-opaque material, and this material may pass through the duodeno-jejunal area in small amounts (Fig. 1). If complete obstruction has ensued, there may be no passage. It is well in cases of suspected malrotation to do a barium enema, because the colon may be found lying entirely in the left side of the abdomen or at least the cecum will be found somewhere in the region of the midline in the upper abdomen (Fig. 2). This combination of partial duodenal

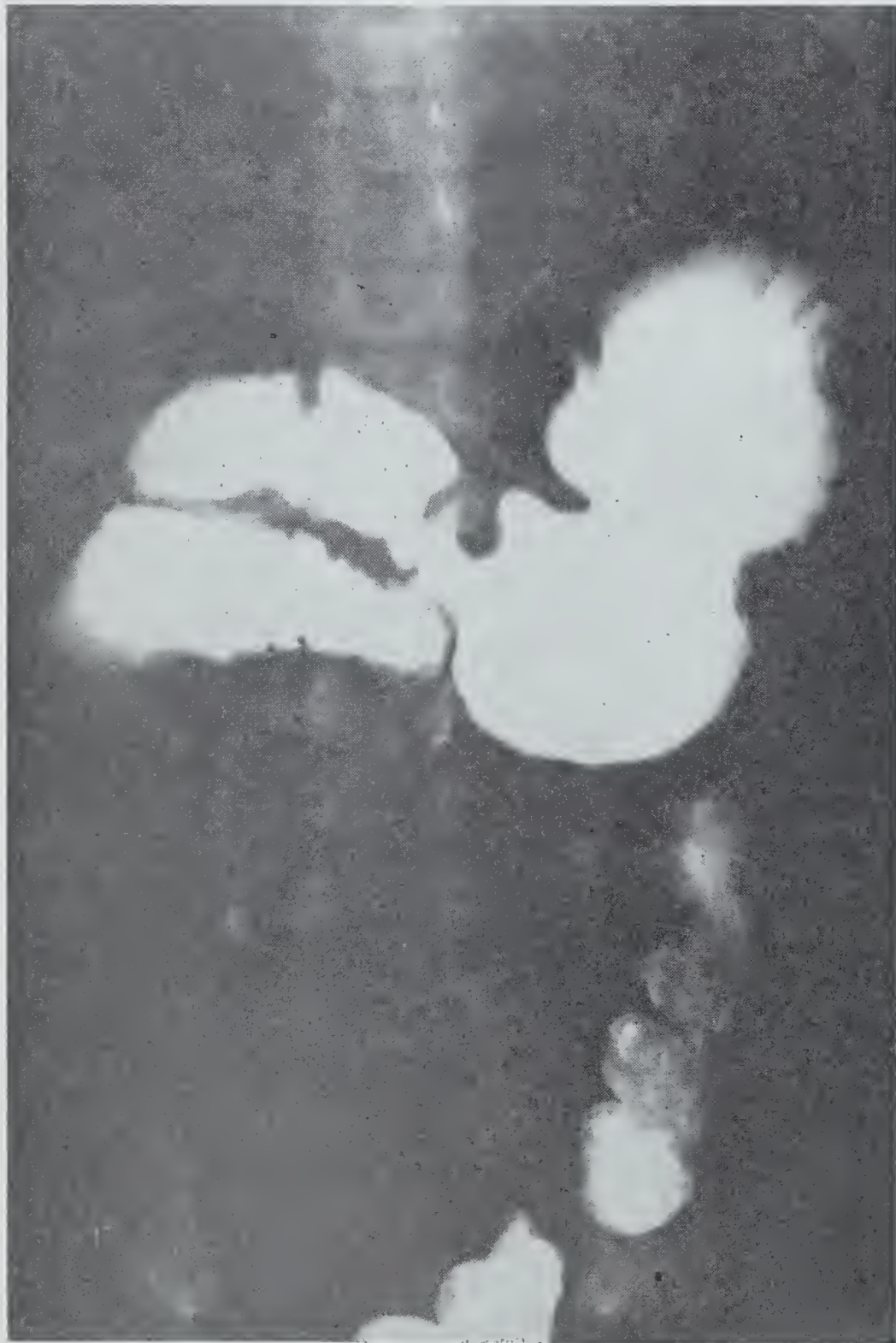


Fig. 1



Fig. 2

obstruction and left sided colon completes the x-ray diagnosis. Treatment of this condition when symptomatic is always surgical.

When surgical intervention is indicated, there are several things which must be done. When the abdomen is opened the small bowel will be found to occupy most of the visible abdominal cavity. The cecum will be found in varying positions, but will usually be found in the upper and possibly left abdomen. The entire small bowel should be gently brought out of the abdominal cavity and the mesenteric root should be checked carefully for volvulus. Sometimes the mesenteric root may



already be twisted a varying number of degrees without causing any symptoms. If there is any evidence of volvulus this should be corrected by rotating the coils in the opposite direction. The coils of intestines should then be returned to the abdominal cavity or protected until later in the procedure. The duodenal bands should be identified and carefully sectioned so that the entire duodeno-jejunal area is completely freed. Since a duodenal stenosis will be found in approximately 11% of these cases, it is well to perform a small gastrotomy or enterotomy and pass a French catheter throughout the length of the duodenum to rule out the possibility of a duodenal stenosis. If a stenosis is present, a by-pass procedure should be done at this time. No attempt should be made to fix the colon into what would be considered its normal position. If the patient is in good condition, the appendix may be removed.

The following case history is illustrative: R. L. W., a 3-year-old colored male, was admitted to County Hospital, 20th of August, 1957 with a complaint of vomiting since birth. The vomiting was intermittent and usually occurred about 5 minutes after eating. Symptoms had started the day after birth, at which time the patient vomited breast feedings. This intermittent vomiting of bile-stained material had persisted and the episodes would last from 4 to 7 days. There was occasional abdominal distention. During these attacks he would lose weight.

Physical examination was essentially negative except for a thin, slightly under-developed child.

Laboratory findings were as follows: His hemoglobin was 8.4 grams. X-ray reports: The upper G. I. series showed a stomach which was slightly dilated, and there was a rather marked dilation of the proximal three-fourths of the duodenum. Some barium was distributed throughout the upper small bowel one hour after the upper G. I. series. A barium enema showed the cecum and terminal ileum lying in the upper left quadrant.

Due to the low hemoglobin the patient was transfused and surgery was performed on the 30th of August, 1957.

Under general anesthesia a transverse upper abdominal incision was made. The abdominal cavity was entered and the stomach and duodenum were found to be greatly distended. The stomach and duodenum were emptied by means of a Levin tube passed into the stomach. The small bowel was not distended. The entire midgut was delivered on the abdominal wall and the narrow mesenteric root was noted. However, there was no volvulus at this time. The coils of intestine were then protected with moist packs and attention was turned to the duodeno-jejunal area. A number of ad-



Fig. 3a

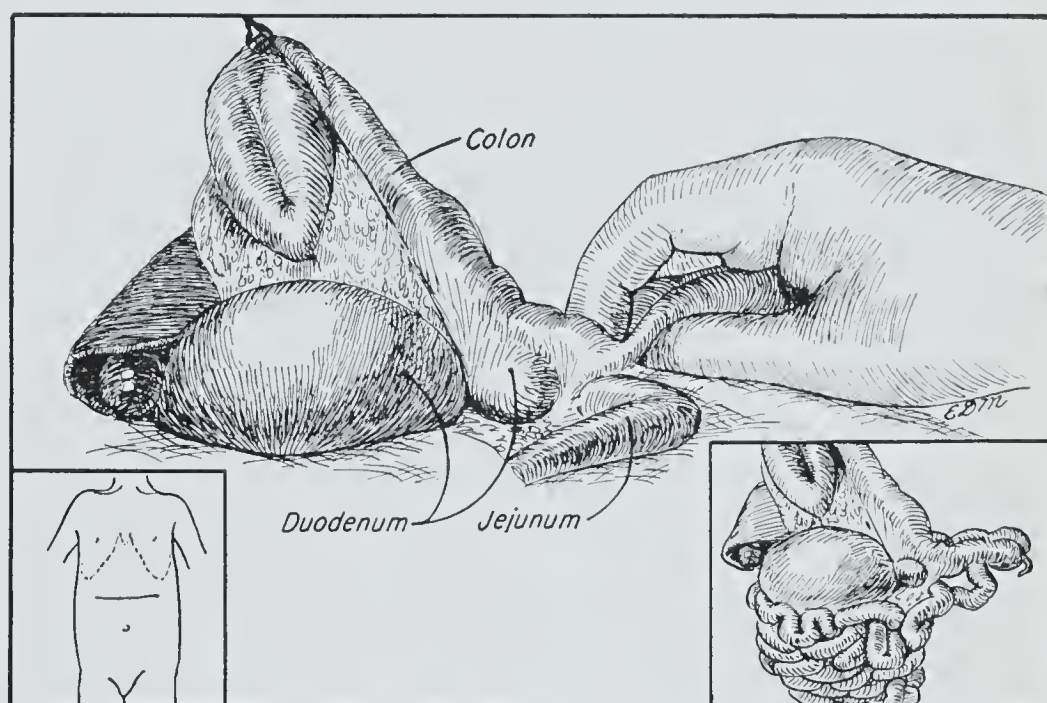


Fig. 3b

hesive bands ran across this area and extended to the colon (Figs. 3a and 3b). These bands were separated by sharp and blunt dissection, and as the dissection proceeded the duodenum was seen to balloon out along its course. The dissection was continued until the entire duodeno-jejunal area was free. In this particular case it was felt that the dilation and filling of the duodenum and jejunum had been so dramatic that a stenosis could not have been overlooked and for this reason a catheter was not passed down the duodeno-jejunal area. No other evidence of congenital abnormalities was found. The patient's condition was good and the appendix was removed. No attempt was made to fix the bowel in any way or to move the cecum into the right lower quadrant.

The postoperative course was uneventful and he was discharged on the 6th of September, 1957.

Since that time he has had no vomiting and no recurrence of any of his previous episodes. X-rays of the gastrointestinal tract have showed the colon to be in the same position and there is still transient dilation of the duodenum but it empties satis-



factorily. There is no evidence of duodenal obstruction, stenosis or gastric retention. He is gaining weight and now developing normally.

## SUMMARY

The pertinent diagnostic and therapeutic features

of duodenal obstruction due to incomplete rotation of the bowel have been outlined and an illustrative case presented.

## CRANIOCEREBRAL INJURIES

J. GARBER GALBRAITH, M. D., F. A. C. S.

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Most physicians, whatever their field of special interest, are called upon to care for head-injured patients. Automobile accidents produce an ever-increasing number of brain injuries distributed widely in urban and rural areas. The Cornell University automotive-crash-injury-research study revealed that 75% of all persons injured suffered craniocerebral trauma. In the majority of these cases there were also multiple injuries to extremities and internal viscera. Thus, while one might not choose to treat brain injuries, a knowledge of this subject is essential to the intelligent handling of the patient with multiple injuries.

## CLINICAL MANIFESTATIONS

Accurate evaluation of the brain-injured patient begins with the determination of the mechanism of injury. A small force, moving at relatively high velocity, applied to the immobile cranium will inflict local trauma to the scalp and skull at the point of impact. This is likely to result in a localized depressed skull fracture with brain contusion and laceration. Since a relatively small area of cortex is involved, impairment of consciousness may be minimal. Focal neurologic deficit will reflect the specific area of cortex involved. In a high percentage of such cases, surgical measures are required for removal of depressed skull fragments and/or evacuation of clots resulting from laceration of middle meningeal or cortical vessels by bone fragments or penetrating foreign body.

The larger group of brain injuries, epitomized by the automotive crash injury, is produced by rapid acceleration and/or deceleration of the freely moving head. With rapid acceleration or deceleration of the head, the lag in the movement of the brain causes it to be contused against the rigid inner surface of the skull. Generalized brain contusion results, and the basilar aspect of the brain and brain stem often receives the major impact of the force. Consciousness is usually profoundly impaired, and coma may persist for long periods. Localizing neurologic signs are usually wanting;

management in this group is largely supportive, with surgical intervention seldom being required. Nevertheless, extreme vigilance is required if one is to recognize signs of cerebral compression due to hemorrhage in the comatose patient when they do occasionally occur.

## MANAGEMENT

The most significant advance in management of brain injuries since World War II has been the recognition of the vital importance of a mechanically clear airway in the unconscious patient. Tracheobronchial obstruction due to aspirated vomitus and secretions produces progressive hypoxia not necessarily accompanied by cyanosis. The poor oxygenation of the brain leads to deepening coma, progressive brain swelling as a result of increased capillary permeability, and a rapidly down-hill course. The only effective treatment of this insidious and vicious cycle is prevention by immediate attention to the maintenance of a clear airway. Tracheostomy is the most effective means of achieving and maintaining this objective and should be done early. It is essential in all comatose cases with profuse vomiting or bleeding in the nasopharyngeal passages, and in most other cases where coma persists for more than twenty-four hours.

More recently, hypothermia has been employed in the management of severe brain injuries. The resultant reduction in metabolic activity of the brain aids survival of injured tissue by reduction of its oxygen requirement. There is also lessened swelling of the contused brain. The severely brain injured case manifesting decerebrate rigidity, labored and stertorous respiration and rapidly rising temperature—the clinical picture of severe hypothalamic and brain stem injury—becomes quiet and relaxed when the body temperature is reduced to 90°. He is maintained at this level until gradual warming can occur without reappearance of the above-mentioned signs. The equipment and personnel required for management of the refrigerated patient limit the usefulness of this method.

Routine management of the brain-injured patient after initial evaluation involves frequent reevaluation and good nursing care. Frequent and

From the Division of Neurosurgery, Department of Surgery, Medical College of Alabama.

Read before the Alabama Chapter, American College of Surgeons, Point Clear, February 13, 1959.



adequate suction is required to keep the airway patent. Sedation is permitted only for control of extreme restlessness or convulsions. Fluid and electrolyte requirements are supplied intravenously or by nasogastric tube. Frequent recording of vital signs and evaluation of the neurologic status are essential. Deepening coma, altered vital signs, and appearance of localizing or lateralizing neurologic signs indicate cerebral compression due to bleeding and may require prompt surgical intervention. In the first twenty-four hour interval the most dangerous complication is epidural arterial hemorrhage from the torn middle meningeal artery. Thereafter, the more insidiously developing subdural hematoma accumulates as a result of bleeding from torn veins bridging from the cortex to the dural venous sinuses. Gradual deterioration over a period of days or weeks may occur, sometimes after relatively trivial trauma (especially in the older age group).

The results of surgical intervention in these two categories, when instituted before irreversible brain damage occurs, are so gratifying that extreme vigilance in every case is warranted in order to detect intracranial bleeding in time to permit its removal.

#### COMPLICATIONS

Intracranial hemorrhage has been considered above. Infection is a potential hazard in any compound wound and is prevented by adequate definitive care of the wound with primary wound closure including the dura, along with administration of broad spectrum antibiotics.

Skull fractures involving the frontal sinus or cribriform plate may result in cerebrospinal fluid fistula. This may be only transient but, if persistent, will invariably lead to purulent meningitis. Surgical repair of the fistula should be effected before infection develops. A more obscure complication of this type of fracture is intracranial suppuration or meningitis developing months or years after the injury as a result of frontal sinusitis, with direct spread of infection through the cranial defect at the fracture site. Surgical repair by fascial graft will prevent recurrent intracranial suppuration.

Basilar fractures in the middle fossa may damage the internal carotid artery, resulting in an arteriovenous fistula in the cavernous sinus. When symptoms of this lesion occur, surgical control by a "trapping" operation is effective in preventing progressive neurologic sequelae such as blindness.

A little recognized complication of skull fractures in infants is the traumatic arachnoid cyst. This results from a tear of the dura and arachnoid with formation of an arachnoid cyst. This expands gradually, with erosion of the skull along

the fracture, and eventually may produce severe pressure atrophy of the underlying brain. It should be suspected when there is a persistent soft swelling under the scalp at the site of fracture, and is confirmed by radiographs showing progressive destruction of the skull. Repair of the dural opening should then be undertaken.

#### SUMMARY

The pathologic physiology of the various types of craniocerebral injuries has been briefly considered. The clinical management of brain injuries is outlined, with particular emphasis on the recognition of the indications for surgical intervention. Various complications, early and late, are discussed, along with their management.

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**Community Pessimism Retards Mental Illness Recovery**—A pessimistic attitude on the part of the community is responsible for sending many discharged mental patients back to hospitals, a Maryland researcher said recently.

This conclusion was voiced by Erwin L. Linn, Ph.D., Bethesda, following a study of 582 patients who had been treated during 1955-56 with the then new tranquilizing drugs chlorpromazine and reserpine.

His report appeared in the June Archives of Neurology and Psychiatry, a publication of the American Medical Association. The study was sponsored by the National Institute of Mental Health.

Of the 582 patients, Dr. Linn said that 39 per cent were released to the community and remained there for one year, but were then readmitted to the hospital. He attributes this to an optimistic attitude on the part of the hospital staff which has not been transferred to the community.

The effectiveness of treatments with the tranquilizing drugs is credited by Dr. Linn with creating the optimistic attitude in the hospital. He said that the drugs were first used with "some reluctance." However, the successful results gave the staff members a feeling of confidence which led to a more optimistic and helpful approach to the patient.

He continued, "Staff optimism arose because the hospital witnessed within a relatively short time a dramatic improvement in the usual behavior of its patient population. The families or friends of released patients had no similar institutional experience."

Dr. Linn added that if the patients recovered because of staff optimism, they were likely to relapse on release because they were no longer sustained by such optimism.

The researcher also noted that the patients in his study were less overactive and were released more quickly than patients who had never been treated with tranquilizers.

He commented, "The lower hyperactivity of the 1955-56 patients and their higher release rate may have ensued from a change in the attitude of the staff from skepticism concerning drug therapies to a sense of expectancy that they would work."

A staff relieved of many tensions, with time freed from control of hyperactivity, with a mounting sense of hope for patient improvement, could not fail to communicate its enthusiasm to all patients, he said.

Dr. Linn concluded that the discontinuity in optimism between hospital and community explains why patients treated with tranquilizers are more likely to return to the hospital within one year than had earlier patients.



SPECIAL PROBLEMS IN SURGERY OF THE AGED

O. EMFINGER, M. D., F. A. C. S.

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With life expectancy increasing appreciably with the passage of each decade, we are faced more and more frequently with the elderly patient in need of emergency surgical care and the patient whose life could be made much more comfortable with elective surgical procedures. In the statistical bulletin of the Metropolitan Life Insurance Company for July 1950 there is a report on the changes in the life expectancy which have taken place between 1900 and 1950 among whites in this country.

Life Expectancy of Males			
	1900	1955	Increase of
At birth	48.2	67.3	19.1 years
At 65	11.5	12.9	1.4 years
Life Expectancy of Females			
	1900	1955	Increase of
At birth	51.1	73.6	22.5 years
At 65	12.8	15.5	2.7 years

TABLE 1

I think it is significant that, although the life expectancy of babies born in 1955 was so much greater than those born in 1900, the life expectancy of adults who were 65 years old in 1955 was not increased greatly over that of adults who had attained that age in 1900. It is likely that the life expectancy of 65-year-olds has not increased greatly since 1955. This can mean only that causes of death among younger people have been greatly reduced while causes of death of 65-year-olds are almost as effective as over 50 years ago. But because more people are attaining the age to be called elderly the problems of both medical and surgical management of these people are confronting us at a rapidly increasing rate. I am sure that with the increased experience of treating these elderly persons both medical and surgical mortality and morbidity can be reduced.

In a recent editorial in the A. M. A. News<sup>1</sup> it was pointed out that "the number of persons in the United States aged 65 or over increases about two thousand a day." That doesn't sound very impressive at first thought, when distributed over the entire country, but, when considered by the year, it is a 730,000 per year increase in our elderly population, if age 65 is to be arbitrarily considered as the minimum age to be in the elderly group. In my own surgical practice, in reviewing the last 400 major operative procedures performed, it was

found that 56 or 14% were over 65 years of age. Table 2 below shows the distribution according to age and also mortality.

Age Group	No. of Patients	Operative Mortality
65-70	19	1 mesenteric thrombosis
70-75	16	1 pulmonary embolus
75-80	10	1 hepatitis. Uremia
80-85	9	
85-90	2	
Totals	56	3

TABLE 2

Certainly in the recent past, better surgical management of these senior citizens has been responsible for a fair share of expanding longevity. With the addition to our population of 730,000 per year in this age group, improving surgical management of these people will further increase their life expectancy and make the life which they have left more comfortable and happy.

It is not the purpose of this paper to discuss economic and sociologic problems which have been increased in direct proportion to the increase in the aged population, but I think that in our consideration of the problems of surgical care of this group it is appropriate that we realize there is not only a need for better surgical judgment and surgical skill but a need for more skilled nursing care. We have had nurses specialized in pediatric surgical care for many years. Now we need those specialized in geriatric surgical care. There is a need for effective methods to study their health needs. There is a need for socio-economic research regarding their problems. Some communities have established organizations to help with the problems of senior citizens. The American Medical Association has given top consideration to the task of creating better care for the aged. There is indication that the A. M. A. will offer leadership so badly needed in this field. Such leadership will eventually evolve to the state and local medical societies for the special problems at the local level. We may as well decide that we cannot isolate ourselves in the strictly surgical aspect of this complex problem, but must provide much of the leadership in solving the socio-economic problems so closely allied to the surgical and medical problems.

Evidence is increasing that elderly patients can withstand moderate major surgical operations with a mortality rate which compares very favorably with that of comparable procedures on younger patients, but for radical major operative pro-

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1. A. M. A. NEWS: October 6, 1958.



cedures mortality in the elderly group remains considerably higher. Morbidity, likewise, compares favorably with the younger group, but here again morbidity in the radical major procedures is much higher.

One author,<sup>2</sup> in reporting on 500 consecutive cases of 60 years of age or older, reports a mortality of 9.6%, about three times the mortality rate of 3.1% for all major surgical procedures during the same period. There was a very sharp rise in the death rate with increasing age. Once 70 years was reached there was a sharp increase from 5.41% to 16.1%. However, it was impressive how well the very old withstood surgery. Those over 80 years of age had a surprisingly low mortality. Chronologic age alone should not preclude surgery. Evidently, the person who possesses that intrinsic something to live to be 80 or over seems to possess enough reserve to tolerate major surgery. Certainly chronologic age is not always paced by physiologic age.

In deciding whether to operate on the elderly patient, one is faced with a decision which depends a great deal on the philosophy of the surgeon, whether he has a fatalistic attitude regarding geriatric surgery or whether he is willing to accept the ever-present challenge of the patient already having a decreased physiologic reserve.

There is another philosophy involved in the problem—that of the patient. Does he really want the cure or relief which surgery has to offer? All too often we are faced with the elderly person whose children have cajoled him into going to see the doctor who, in turn, has added his voice in insisting he should submit himself to the surgeon for operative treatment. Maybe the old man doesn't want to get well; maybe he finds himself a burden to all; maybe he has been hunting a way out of all the misery of living. I firmly believe that, after explaining what can be expected of surgery and what can be expected without surgery, if the patient still says "I'll just die natural without your help," we should wish him Godspeed and respect his choice of how he should die, if, indeed the pathology points inevitably to death. Of course, we may well see him again as an acute surgical emergency instead of as an elective patient, but, in the meantime, maybe he will have had a few good months or years. So much for philosophy. Faced with the elderly patient with a surgical problem of an elective nature which may or may not potentially evolve into an acute problem necessitating emergency treatment, it behooves us to consider carefully the possibilities of this be-

coming an emergency and act accordingly. One author<sup>2</sup> reports a mortality of 17.4% in emergency surgery for the aged as compared to 8.8% in elective procedures. When these patients come in as an emergency, they are frequently already deteriorated greatly, and deteriorate at a much more rapid rate than in the younger groups in that there often simply is no physiologic reserve.

Southwich, Slaughter and Bollinger<sup>3</sup> believe that there should be no delay in performing surgery on an elderly patient as soon as a good nutritional state can be established. They point out that a disease process should be stopped as soon as possible in the aged because its prolonged continuation may result in a fatality, although the disease itself may be benign. I certainly concur in this opinion. Cole states: "Too often the surgical therapy for elective conditions is postponed in elderly patients, in the hope, I presume, the patient will die of some other disease before the present one threatens his life." I am afraid this has been too often true in the past.

The elderly, even the very old, should not be denied the benefit of elective operations, but we must recognize that, though they are able to tolerate major surgical procedures, they cannot tolerate the added weight of complicating disease and deficit so common in the aged.<sup>4</sup> One aged patient's condition may permit immediate operation with routine care, where another may require a great deal of preparation, as nutritional and blood build-up or correction of a concurrent complication, before his general condition can revert to a state permitting surgery. The high mortality associated with emergency surgery is evidence that these patients should be put into optimum condition as rapidly as possible.

It is worth reemphasis that most aged patients have inadequate physiologic reserve. There are often multiple deficiencies of one or more systems involved, any one of which may cause serious or fatal complications. One of the most serious problems is malnutrition. General avitaminosis is often present. We must remember that these patients have often had poor appetites for a long time, either as a result of disease process or the sedentary life they live. Many have poor dietary habits due to dental difficulties and have had for many years. Many have been on deficient diet due to economic status, trying to get by on very limited financial means. If the proposed surgical procedure is not one of immediate emergency,

3. Southwich, H. W.; Slaughter, D. P., and Bollinger, J. A.: Idiopathic Hypertrophic Pyloric Stenosis in an Elderly Adult, *Illinois M. J.* 107: 139, 1955.

4. Vaughn, Askell M.; White, Michael S., and Coleman, John M.: Problems Peculiar to Surgery of the Aged, *J. Am. Geriat. Soc.* 4: 483, May 1956.

2. Bosch, D. L.; Islami, A.; Tarr, C. T. C., and Beling, C. A.: The Elderly Surgical Patient: An Analysis of Five Hundred Consecutive Patients Sixty Years of Age or Older, *Arch. Surg.* 64: 269, 1952.



every effort should be made to increase the nutritional state by high caloric, high protein feedings, and by vitamins, the latter being given preferably by needle to insure proper absorption. Sometime tube feeding may be necessary, certainly in lesions of the esophagus or mouth. Gastrostomy tube feeding may be the only mode to restore nutrition preliminary to surgery. In attempting to reestablish optimum nutrition, we must not lose sight of the fact that too prolonged an effort in this respect may delay surgery past the time interval where maximum results of surgery can be expected. Too often in attempting to reestablish good nutritional balance it is found that nutrition cannot be restored until the surgical procedure is accomplished. This is particularly true of certain types of visceral fistula and of lesions producing toxicity by their very nature of predisposing to infection. It is wise to have these patients under daily observation while attempting to improve their nutritional state lest the optimum time for definitive surgery pass without action being taken.

Closely allied, and often inseparable from the nutritional status, is the problem of contracted blood volume. In most patients the deficiency in blood volume is related to one or more of four factors: 1) inadequate dietary intake, 2) malignancy, 3) chronic kidney disease, and 4) bleeding from the gastrointestinal tract. Some blood volume deficit appears to be almost universal in elderly patients.<sup>5</sup> Some speak of these people as being in "chronic shock." Blood volume studies are of great help in determining the blood deficit and should be used if available. I have not used these studies as they have not been available to me. Hemoglobin, hematocrit and red cell determination should be done and, where there are deficits here, replacement by transfusion is imperative. Preoperative transfusions should be done until hemoglobin returns to normal, or, when measurable, the blood volume reaches normal. Since these patients have often been deficient in blood a long time and have become adjusted to their state of contracted volume, rapid expansion may be dangerous and has resulted in cardiac failure. To safeguard against this daily transfusions of small amounts, 250 to 300 cc. until correction is obtained may be desirable, if surgery can be safely delayed long enough to carry out such a replacement program. Replacement of blood loss at the time of operation is important. The vascular system in these elderly people does not respond and compensate for blood loss as readily as on the younger patient. Severe shock can develop rapidly and is difficult to reverse once it progresses far. Therefore, blood should always be available,

and a needle in a vein before surgery is begun. Of course, in the presence of poor cardiac reserve, blood may not be tolerated well if given rapidly. Pulmonary edema may result. However, even the patient with poor cardiac reserve will usually tolerate transfusion when given to replace blood deficit. I have not seen a patient die of overloading with blood, but I have seen patients die of irreversible shock due to failure to provide adequate replacement either before or during surgical procedures.

As cardiac disease leads the list of causes of death in elderly persons, it is also at the top of the list of the special problems of surgery in the aged. Often we know heart disease is present, either in mild or severe form, but in evaluating the patient we must elect to perform surgery in spite of it. Even when no disease is detectable, the added strain of surgery brings into evidence previously undetectable cardiac deficit. Electrocardiographic studies should probably be made on all prospective surgical patients in the aged group, if only to detect recent coronary occlusions. However, I believe a clinical appraisal of the cardiac status is more important than laboratory appraisal. Careful questioning regarding ankle edema, exertion dyspnea, pain on exertion and orthopnea will be of great help. If questioning reveals evidence of poor reserve, I believe preoperative digitalization is indicated. Routine digitalization is recommended by some but I do not believe that such is necessary. Careful observation of the cardiac status during the postoperative period to detect any evidence of failure will usually allow adequate time to digitalize. The routine use of digitalis preoperatively may produce digitalis intoxication often enough to offset any benefits derived from its routine use.

The evaluation of the urinary tract is very important before subjecting the aged to major surgery. Kidney function should be evaluated. In the male the prostate should be palpated, and bladder retention should be determined. Postoperative difficulty in emptying the bladder predisposes to poor kidney function, infection and discomfort. Often the patient is given a shot for pain by the nurse at midnight when he would be sleeping soundly if he had an indwelling catheter in his bladder. Infection of the urinary tract should be corrected before surgery, if possible. Urinary tract infection is high on the list of complications and causes of death of all series reviewed. In one series<sup>6</sup> of 203 complications in 354 operations, 28 were of urinary origin, either infection or obstruction or both.

5. Nealis, Charles H., and Kilgore, Alson R.: Preoperative and Postoperative Care of the Aged, *Surg. Clin. North America* 34: 1473, October 1954.

6. Haug, Chester A., and Dale, W. Andrew: Major Surgery in Old People, *A. M. A. Arch. Surg.* 64: 421, April 1952.



Preoperative evaluation of the respiratory tree in the elderly is often difficult. Chest x-rays may show little or no essential abnormalities, yet the patient's cough produces considerable mucus. Many of these people have chronic bronchitis, bronchiectasis and emphysema, all of which predispose to postoperative complications. Every effort should be made to clear pulmonary infection prior to surgery. These people often have a difficult time clearing mucus from the bronchial tree after surgery, thereby developing areas of atelectasis and pneumonia. Pneumonia is one of the most common causes of postoperative mortality and morbidity. It is well to turn these patients often after surgery and encourage deep breathing and coughing. Expectorants help, but the encouragement of coughing up secretions is of much more value. In this respect I wish to emphasize that the cough reflex is markedly reduced, if not completely blocked, by narcotics and sedatives.

In considering the large number of pulmonary complications, especially infection, the problem of the use of antibiotics routinely in the elderly patient raises its ugly head. Some have recommended routine use of penicillin before and after operation. It is a well recognized fact that elderly patients tolerate infection poorly wherever it may be. It is also true that for each degree of temperature elevation there is usually an increase of about 10 beats per minute in the heart rate, thereby adding to the work of the heart and predisposing to cardiac failure in those already having mild cardiac weakness. So I think that certainly there are good arguments for routine use of antibiotics. On the other hand, there are often complications to the routine use of antibiotics, especially in sensitivity reactions and development of resistant strains of bacteria, and gastrointestinal complications in the myocin drugs. When antibiotics have been necessary to correct respiratory, urinary or other infection preoperatively until the time for surgery, they should be continued on into the postoperative period, until it is safe to discontinue them. Certainly where peritonitis is an expected complication postoperatively due to the nature of the surgery, antibiotics should be used, which does not differ from their indication in the younger patients. The use of antibiotics should not take the place of good surgical technique and principles, and one should not be lulled into a false sense of security by their use, as disastrous infection may develop while the patient is being given an antibiotic, only to manifest itself in all its fury after the drug has been discontinued.

The abuse of narcotics and sedatives, as preoperative medication and in postoperative care, is commonplace. It is certainly desirable to quiet the anxiety of the elderly patient being prepared

for surgery and it is often necessary to relieve the pain while preoperative preparation is carried out on the emergency case, but it must be kept in mind that these old people often tolerate narcotics and sedatives poorly. Relief of pain is often obtained with only a fraction of that narcotic required for vigorous young adults. If Demerol is to be used, 25 to 50 mg. often suffices, in conjunction with a small amount of atropine or scopolamine. In our hospital our anesthetist almost routinely uses Phe-nergan instead of any barbiturate for preoperative preparation. The elderly seem to tolerate it well. Where a local anesthetic alone is to be used, I prefer to give no preoperative sedation unless absolutely necessary to control pain. I find that a fully alert, cooperative patient is much easier to manage under local Novocain anesthesia than one stuporous and disoriented from narcotics and sedatives. They rarely have to be reminded to stop trying to get off the table.

In the postoperative period many of the complications could be eliminated or reduced if no narcotics or sedatives were used. I am not advocating throwing the key to the narcotic box away, but I do believe postoperative sedation and narcotics should be prescribed with more consideration for the well being of the patient and less consideration for the convenience of the nursing staff and feelings of the family who are not satisfied unless father is "sleeping well" or has had "a quiet night." Too often the "good sleep" or the "quiet night" forebodes evil things and reflects too closely the nurse's desire to have a quiet night. If large dosages are not ordered, the nurse usually will not give any. Close observation of the patient and close attention to the character of his complaints will often obviate the necessity for narcotics. Abdominal pain can often be relieved by catheterization instead of giving a shot. Restlessness can often be attributed to nausea and can be controlled by Dramamine rather than narcotics. Pain is often unassociated with the surgery and can be relieved by the same medicine he was taking before surgery—aspirin, for instance. Change in position in bed not only is desirable in preventing pneumonia, decubitus ulcer and thrombosis, but it also frequently relieves discomfort just as completely as a shot of a narcotic. If orders for narcotics are kept at a minimum and canceled at the earliest possible date, and the nursing staff is encouraged in better nursing methods, the patient will fare better, though the nurse may have worked a little harder. If the same nurses are utilized repeatedly, it will not take long to train them in the misuse of narcotics.

One of the greatest postoperative problems as to morbidity is the mental deterioration of the aged surgical patient. It is always wise to evaluate



Carefully the past history as given by family and patient as to any evidence of previous mental confusion or deterioration in order to prepare the family and yourself for postoperative mental problems. Careful explanation to the patient before surgery as to what to expect after surgery may help materially in reducing the anxieties and resultant mental collapse postoperatively. The prevention and prompt treatment of shock certainly is a good prophylaxis against mental damage. Rapid return to normal function of all systems is desirable. Tubes in all orifices should be removed as quickly as possible. As emphasized above, narcotics and sedatives should be kept to a minimum as the best prophylaxis against mental confusion. Early ambulation is important in preserving and treating the mental deterioration as it gets the patient back more nearly normal, a condition with which he can better cope.

When speaking of surgical patients, ambulation often is used to refer only to the postoperative course. It is just as important to keep the patient ambulatory in the preoperative period, especially the elderly patient. Inactive muscles deteriorate rapidly as do inactive brains. The decubitus ulcers develop just as rapidly in the patient lying in bed before surgery as they do after surgery, so if at all possible the patient should be kept up and active until the time for surgery. Then, just as quickly as the surgical procedure permits after operation, he should be ambulated. For most surgical procedures this is certainly within a day or two after operation. There are some procedures and complications that preclude immediate ambulation, but the quicker the patient is out of bed the quicker will be the recovery, the better the mental attitude, and fewer the complications.

The scope of this discussion will not permit detailed analysis of the advantages and disadvantages of the various types of anesthesia in geriatric surgery. Certainly the presence of a skilled anesthesiologist is much more important than the choice of the anesthetic agent. In the aged the margin of safety is often very narrow and anesthesia must be administered with extreme skill, and the course often altered during the operative procedure. Wide swings in depth of anesthesia should be avoided, as well as prolonged anesthesia. Patients of this age group are very intolerant of depressive drugs of all types, including anesthetics. It is desirable that the patient awake as quickly as possible after the operation. I like to see them beginning to respond in the operating room. The quicker the patient is awake the quicker the various symptoms can be evaluated as to the response to the operation, and the quicker the undesirable responses can be corrected.

Local anesthesia, including nerve block, is preferable in elderly patients if the important parts of the operative procedure can be done outside the peritoneal cavity. It can be an adjunct to general anesthesia, even with an operative procedure carried out mainly in the peritoneal cavity. However, it can be dangerous as the sole anesthetic for prolonged work in the peritoneal cavity. Patient discomfort and subsequent motion on the table may lead to inadequate exposure. The patient will likely tolerate a properly administered general anesthetic and careful operative technique better than a poorly done hasty operation under local anesthesia.

In the physical handling of the elderly patient on the operating table and transporting him after the operation, care should be taken to be gentle. These patients tolerate extreme positions on the table poorly. After operation, lack of gentle handling in moving the patient may produce shock in one who has tolerated an operative procedure well.

Time does not permit a detailed discussion of the problem of electrolyte balance in the elderly.<sup>7</sup> They tolerate sodium poorly. Intravenous fluids should be adequate but not excessive. I believe it better to under hydrate than over hydrate because of the danger of overloading and producing pulmonary edema. The geriatric patient has a lowered metabolism, eliminates fewer waste products, and therefore requires less fluid daily than a younger person.<sup>8</sup>

In conclusion, it is to be emphasized that, although the elderly patient should not be denied the benefit of surgery on the basis of age alone, it is an indisputable fact that the hazard of surgery is greater. However, with closer attention to the deficiencies, more thorough preoperative preparation and recognition and treatment of complications, morbidity and mortality in this group can be reduced to an acceptable level.

#### NEXT ANNUAL SESSION

#### MOBILE

APRIL 21, 22, 23, 1960

7. Roberts, Kathleen E.; De Copse, Jerome J., and Randall, Henry, T.: Fluid and Electrolyte Problems in Surgery of the Aged, *Bull. New York Acad. Med.* 32: 180 (March) 1956.

8. Ziffred, Sidney E.; Zager, Lewis L., and Cullen, Stuart C.: Hazards of Surgery Beyond the Age of Eighty, *Geriatrics* 5: 252, Sept.-Oct. 1950.



**Home Swimming Pool Hazards Outlined**—Potential danger is lurking in the American back yard. The culprit is some 125,000 home swimming pools.

The danger is further aggravated by almost one million small, plastic playpools which have been placed in the nation's yards for small fry.

These facts were reported in the June issue of *Today's Health*, a publication of the American Medical Association.

The article said that with tremendous numbers of children and adults swimming in their own or neighbor's back yards, more people than ever face the possibility of accident.

In the past 10 years the number of home swimming pools has increased from 2,500 to 125,000. A substantial increase is expected again this year.

In addition to drownings, doctors attribute many colds, ear-nose infections, skin troubles, and other diseases to home swimming where the basic principles of water sanitation are not observed.

To overcome many of the potential dangers, the article offers a number of suggestions. These include:

—Situate the pool near the house for convenience and to permit a view of the youngster's activities.

—Fence the pool or the whole area in which it is located; use a tamper-proof lock.

—Install an alarm that is set off by any sudden water displacement, such as occurs when a person splashes into a pool.

—Keep some sort of rescue device handy at all times. This may be a buoy or a pole.

—Make sure all pool users know how to swim.

—Run buoy lines across the pool, or build a divider or barrier, to define shallow and deep sections.

—Keep the pool clean. The swimming water should test as pure as tap water.

—Use a filter. It should be backwashed and flushed out every week.

—Add some form of chlorine to the water. Even with fresh water every day, diseases spread without chlorine.

—Water in splash pools and the smaller portables should be changed daily.

—See to it that some member of the family knows how to administer first aid, especially artificial respiration, and keep a first aid kit on hand near the pool.

—Have the pool constructed by a builder who carries guaranteed equipment, and who knows local health, building, and plumbing ordinances.

In conclusion, the article said, "Now that a family swimming pool is becoming commonplace, it is time owners took precautions for their own safety and that of others. It is time, also, that guest users pay attention to whether or not the pool they mean to enjoy is properly equipped and supervised."

The article was written by Beatrice Schapper, an instructor at New York University, New York.

**American Medical Association Declares Warnings on All Hazardous Chemicals Needed**—Warnings on the labels of all products containing hazardous chemicals has been declared the objective of a model law formulated by the American Medical Association and recently introduced into Congress (H. R. 7352).

Speaking before the Association of Food and Drug Officials of the United States, Hotel Bradford, Boston, Mass., Bernard E. Conley, Ph.D., Chicago, secretary of the A. M. A. Committee on Toxicology, declared: "If we are to educate people to read labels and obey their warnings, we must require identification of hazardous ingredients on all products, not merely on certain classes of chemicals such as pesticides."

Half of all substances causing accidental injury and death are not required by law to carry precautionary labeling. Many of these are used in the home, in small businesses and in other areas where control of harmful exposures is not as guarded as in the manufacturing process.

While three-quarters of these products contain substances which are moderately toxic or worse, most states and the federal government have no laws to require them to carry warnings or to declare toxic or other hazardous constituents, Dr. Conley declared.

There has been a growing acceptance of the need to label hazardous household chemicals. Examination of over 1000 varieties of products revealed that chemicals used in commercial establishments, such as hotels, garages, laundries and restaurants, need the benefit of labeling as greatly as those entering the home.

Dr. Conley discounted the claim that wide use of precautionary labeling would bring about eventual disregard of all warnings. The widespread use of danger and warning signs for transportation and traffic hazards has never been considered a deterrent to safety. No one ever suggested that our mounting motor accident statistics are due to the number of safety signs about them; rather the growing number of auto accidents is related to the increasing number of motor vehicles. The same basic factors underlie the problem of accidental poisoning by hazardous chemicals.

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**License Almost 8,000 New Physicians During 1958**—Almost 8,000 new physicians were licensed to practice medicine in the United States during 1958, it was reported by the American Medical Association's Council on Medical Education and Hospitals.

In its 57th annual report, which appeared in the May 30 *A. M. A. Journal*, the council said that this marks the sixth consecutive year in which more than 7,000 new physicians were licensed.

Of the 7,809 new doctors, 6,155 were licensed through written examinations and 1,654 by endorsement of credentials.

During the period, there were approximately 3,700 physician deaths reported to the A. M. A., which reduces the over-all gain in the doctor population to 4,109.

In all, 15,240 licenses to practice medicine were issued in 1958. Written examinations accounted for 7,315 licenses and 7,925 were given through reciprocity and endorsement of credentials.





## PSYCHIATRIC ASPECTS OF AGING

GUEST EDITORIAL

**Frank A. Kay, M. D.**  
**Birmingham, Alabama**

The usual aging patient presented to psychiatrists is either one with (a) an agitated depression, (b) a reaction in which forgetfulness, confusion, disorientation, impaired judgment and, perhaps, hallucinations are common symptoms, or (c) a reaction, in which anxiety and somatization are the principal symptom areas.

In the agitated and restless patient, in addition to the diagnostic and treatment measures to handle obvious somatic findings and complaints, we, at long last, have drugs to reduce restlessness, promote calmness, and enhance sleep that do not produce confusion themselves.

Thorazine, orally, in 25 mg. doses, every four to six hours, as needed, increased to 50 mg. at bedtime, or later, is most helpful. Where sleep is difficult, especially in the hospitalized patient, 50 mg. of Phenergan, intramuscularly, will often be effective.

Marsilid, in our hands, in spite of many adverse reports, helps about forty-five per cent of the depressed people, giving them a greater sense of well-being, an improved appetite, and general improvement from depressive symptoms. It is given in from 25 to 50 mg. doses, orally, once a day. Marsilid works slowly and results may not be manifest in less than a month.

Barbiturates, bromides or meprobamate may intoxicate and confuse the patient and, in time, produce a delirium with marked insomnia, visual and auditory hallucinations, confusion, disorientation and misidentification.

There is no dependable euphoriant, though Ritalin and Deaner are helpful to some.

A combination of nicotinic acid, 50 to 100 mg., and Metrazol, 1½ gr. (orally) seems, after a time, to allay basic confusion and restlessness in those with senile and arteriosclerotic deterioration and, perhaps, stay the rapid intellectual disintegration so often seen. If used, the drugs should not be discontinued under 90 days.

# Editorials

If the depression is severe enough and psychogenically and not organically based, electroconvulsive therapy, properly given, with proper safeguards to prevent common complications, may be used with relative safety, and is found most effective.

From a preventive standpoint, we might well start at birth with all available knowledge and efforts to insure a physically and mentally healthy person. We must bear in mind that mental deterioration is as much a matter of attitudes and situations as it is of cellular damage. There is no consistent relationship between the amount of cellular damage in the central nervous system and the behavior of the individual.

For a person to have no interests, no stimulating and enjoyable relationships with people, no plans and no hopes is the same as to have that person die, little by little, intellectually and emotionally.

We learn this, not from rocking chair philosophers, but from valid research.

Good vision, good hearing, and good feet go a long way towards helping a person live fully.

Middle-aged and elderly persons can learn the same things as young adults, allowing for reduced speed and visual acuity.

In top groups, vocabulary scores rise with age and beyond retirement. They hold in middle occupational groups and drop in the unskilled group.

People should be prepared for retirement years before it comes.

For two years now, the West Point Manufacturing Company has had a special department for this. At age fifty-five their employees are taught how to live more happily in retirement. Consultants in medicine, law, dietetics, diversionary activities, and other phases of life all make a contribution towards a comprehensive and continuing program of teaching men and women how to live full and fruitful lives. It continues its interest and support after retirement of the employee.

Abilities, Incorporated, is a membership corporation located on Long Island, in Albertson, New York. It does various kinds of manufacturing, largely of electrical parts. It hires only disabled



people, and is a competitive enterprise, a factory, not a rehabilitation center. It has been successful, growing in four years from four employees to three hundred. Should we not have in Alabama similar enterprises, which would utilize skills and abilities of people forced to retire, yet capable of doing good work? Medicine, industry and public-spirited citizens should give some thought to such a project.

### CANCER-LINKED PROTEIN

Cancer researchers, looking for a difference they can exploit between normal cells and cancer cells, have received a new lead from two scientists of the University of Illinois College of Medicine.

Drs. Joseph R. Davis and Harris Busch, using radioactive tracers, have isolated from two strains of cancer cells in rats a radioactive protein that is not found in the normal cells of the rats.

They reported their findings to the Federation of American Societies for Experimental Biology meeting in Atlantic City, N. J.

Most of the effort in the growing field of cancer chemotherapy has centered around trying to find a distinction between normal and cancer cell activity.

The theory has been that if such a difference could be found—a difference in food intake, for example—this could be used against the cancer cell. It might be induced to absorb a deadly drug or chemical that would not affect normal cells.

Up to this time, however, few such differences have been found by cancer drug researchers.

Drs. Davis and Busch emphasized that, although the cancer-linked protein has been isolated, it has not yet been identified. Furthermore, they pointed out, while the protein has been found in two strains of cancer (Walker and Jensen tumors) among rats, the disease takes many forms among animals and humans.

It is possible the same protein may not be found among humans, they cautioned.

The scientists spent many months in their laboratory getting a verification of this unique protein formation. Before this, they had to work out a method for carving out the nucleus of the cancer cell where they hoped the protein might be found. This microscopic task might be compared to trying to peel a balloon without breaking it.

Proteins were then chemically extracted from these "peeled" cancer cell nuclei in a complex process called chromatographic separation. This yielded the unidentified protein.

Months, if not years, of work lie ahead in identifying the protein and in testing its prevalence among cancer in animals and, later, humans.

Beyond that is the challenge of exploiting this peculiarity in a way that will prove fatal to the cancer cell.

Dr. Davis is a research fellow and Dr. Busch is an associate professor in the department of pharmacology at the University of Illinois College of Medicine in Chicago.

### HIGHWAY FATALITIES IN 1958

Excessive speed was by far the biggest single cause of traffic accidents that caused more than 2,825,000 injuries and 36,700 deaths on U. S. highways during 1958, The Travelers Insurance Company reported in its latest highway safety booklet.

It was estimated that speed killed and injured nearly 1,000,000 persons in the United States last year, more than 40 per cent of the total.

Cars that did not have the right-of-way were involved in 25.2 per cent of the accidents causing a total of 608,400 injuries during the year. Reckless driving was blamed for 10.4 per cent of the injuries; cutting in for 4.0 per cent and improper signaling for 3.6 per cent.

Crossing at intersections was the chief cause of the 7,700 pedestrians killed and 245,800 injured. A total of 10.1 per cent or 27,040 pedestrians were injured while crossing with the signal as compared with 7.4 per cent injured crossing against the signal.

It was reported that 97.1 per cent of the drivers involved in fatal accidents had more than a year of driving experience; that 87.9 per cent of drivers involved in fatal accidents were men; that 87 per cent of the vehicles involved in non-fatal accidents were passenger cars; and that more than 95 per cent of the cars involved were in apparently good condition at the time of the accident.

Dry roads prevailed in 78.3 per cent of the fatal crashes and 70.1 per cent of the non-fatal accidents. The weather was reported as clear in 84.2 per cent of the fatal pileups and 79.5 per cent of the non-fatal mishaps.

### RADIATION-INDUCED LEUKEMIA

Studies showing that cancers of the blood-forming organs can be prevented to some extent in irradiated mice by injection of embryonic liver tissue have been reported by Miss Delta E. Uphoff and Dr. Lloyd W. Law, National Cancer Institute's Laboratory of Biology.

The protection against such radiation-induced lymphomas, however, was not equal to that produced by injection of compatible bone marrow.

Miss Uphoff reported this work in a paper, "Comparative effectiveness of marrow and embryonic hematopoietic tissue on reversal of induction



of reticular neoplasms following x-radiation," which she presented to the 1959 meeting of the American Association for Cancer Research.

Studies reported earlier in the scientific literature had shown that compatible bone marrow (bone marrow from the same or a parent strain) protected mice against the development of radiation-induced lymphomas. In the present study, the protective effects of bone marrow and fetal blood-forming tissue were compared.

Fetal blood-forming tissue was selected because of previous observations by Miss Uphoff that mice receiving such tissue were afforded the same excellent protection from death due to radiation as were mice receiving isologous bone marrow (marrow from the same strain).

A group of first-generation hybrid mice, 1 month old, was exposed to a total of 672 r (roentgens) of x-radiation given in four equal doses at 7-day intervals. Shortly after the final irradiation, the test mice received intravenous inoculations of embryonic liver tissue or bone marrow.

At 13 months of age, the incidence of lymphomas was as follows: among the controls, which received no protective treatment, 64 per cent; among the group receiving bone marrow from a parent strain, 22 per cent; and among the group receiving embryonic liver tissue, 34 per cent.

This research is part of a program designed to study the development of radiation-induced leukemias in laboratory animals. These results provide clues to the factors involved in the cause and prevention of such leukemias.

#### BENEFIT INSURANCE PAYMENTS

Benefit payments by insurance companies to the people of Alabama who are covered by health insurance policies reached a new high during 1958, according to the Health Insurance Institute.

In the period from January 1 through December 31, 1958, said the Institute, an estimated \$29.7 million was paid out to help cover the cost of hospital and doctor bills, and to replace income lost through sickness or disability. This represents a 9.2% gain over the 1957 figure of \$27.2 million, and is based upon reports from insurance companies doing business in the state.

The rise in benefit payments in Alabama was reflected in the figures for the nation as a whole, the Institute noted. Persons protected against the expenses of hospital and medical care and treatment received a total of more than \$2.6 billion in benefits from their insurance company policies in 1958, up 8.3% over the previous year's high of \$2.4 billion.

By the end of the year, an estimated 70 million

persons were covered by health cost policies bought from insurance companies, more than all other types of voluntary health plans combined.

#### NEW BOOK AIDS STROKE VICTIMS

"It is essential that immediately upon returning home the stroke victim be aided in reactivating himself. It is equally essential to bring the patient back to his usual environment as quickly as possible. The longer the patient stays in a hospital, the less are his chances of wanting to make a recovery," states Genevieve Waples Smith, R. N., author of the illustrated handbook "Care of the Patient With a Stroke" (Springer Publishing Company, Inc., New York, May 15, \$2.75).

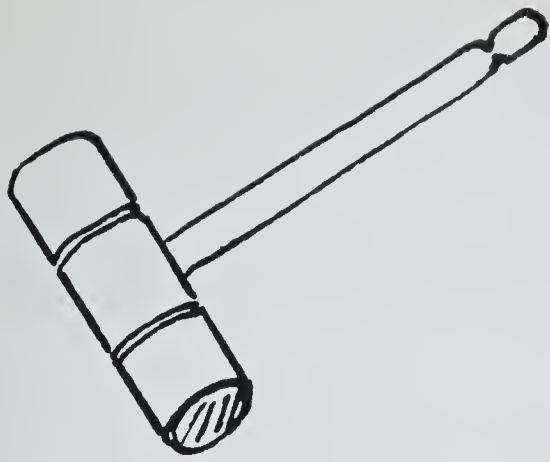
It is estimated that there are 2,000,000 stroke victims in this country. For most of the 500,000 persons who survive strokes each year, there is great hope for rehabilitation, according to Mrs. Smith, a registered nurse, well-known for her work with stroke victims. Her book is also based on the personal experience of caring for her husband who suffered a severe stroke. He regained much of his independence and the Smiths are helping and inspiring many stroke victims in Oregon.

Many patients who had a stroke are half paralyzed and are unable to speak. Much too often the patient is put to bed by the family and left there, Mrs. Smith points out. The family doesn't know what else to do, and the patient frequently accepts the role of one who has to be completely cared for until he dies.

Medical care is essential, Mrs. Smith points out, but suitable home care by the family must follow hospitalization. Her optimism reflects that of Dr. Howard A. Rusk who wrote in the New York Times: "Studies have shown, for example, that 90% of all stroke victims can be taught to talk, travel and to care for their needs in daily living. . . . A recent study has indicated that the patient who has suffered a stroke is a good candidate for rehabilitation if he has a job, a home and someone who loves him, regardless of the severity of the attack."

Among the topics discussed in Mrs. Smith's "Care of the Patient With a Stroke" are: exercises and how to help the patient in doing them, expanding physical activities, visiting, meeting personality problems, emotional problems for the family, learning to talk, and practical hints on nursing and massage. Everything aims at self-sufficiency of the patient, which leads to a job or other usefulness. The illustrations and descriptions in the new handbook (issued by a firm specializing in medical and related books) are for the general reader as well as the nurse.





# President's Page

JEROME COCHRAN

(Continued)

**L**AST month I introduced Dr. Cochran to the younger members of the Association as the father of Alabama's medical and public health organization. The organization he conceived is unique and I should like for them to know wherein the uniqueness lies. It has been referred to by a president of the American Medical Association as the incomparable Alabama plan, and by one of its secretaries as the best medical organization in the world. Why incomparable and why best? Principally because it is not solely a scientific body. It is also an instrument of government. The first section of the public health laws of Alabama is to the effect that "The Medical Association of the State of Alabama . . . is the State Board of Health."

In planning the kind of organization in medicine and public health he would like for his adopted state to have, Dr. Cochran could not see why one and the same body, namely, The Medical Association of the State of Alabama that had been organized in 1847, could not function in both realms. With the eye of a sage, he obtained a clear vision of the objects to be accomplished, and with the accuracy of a logician, he formulated those objects somewhat as follows—and, mind you, this was 87 years ago:

1. To unite the medical profession of the state into a homogeneous and coherent whole, so as to focus its aggregate strength and power and influence on the cause of human health and happiness;
2. To bring the physicians of the several counties of the state together at frequent intervals and those of the state together once annually for the purpose of discussing scientific and practical questions in medicine;
3. To erect a high standard of qualification for the practice of medicine, and to secure the enactment of a law that would entrust the enforcement of the standard to the organized medical profession of the state;
4. To construct a complete and logical public health system for the municipalities, the counties, and the state, and to secure its establishment by

law, with the provision that the practical administration of the system should be committed to the organized medical profession, thus divorcing it forever from commercial and political influence;

5. To provide courts within the profession itself for the intelligent exercise of jurisdiction over the ethics of the profession, with the view of fostering fraternal relations among medical men and thus securing loyalty to pure and exalted principles of professional conduct.

Never before in the history of the world had it been proposed to combine under one and the same organization possibilities for good so broad and beneficent.

When Dr. Cochran had clearly formulated the objects to be accomplished, it became necessary for him to construct the machinery by which these objects could be most easily and certainly accomplished; that is, it became necessary for him to construct a system of organization for the medical profession and upon that to build a public health system; to write a constitution for the State Medical Association to implement the objects he wished to attain; and to prepare legislation that would place upon the profession responsibilities never before carried by any organized group of medical men.

A far step toward the attainment of the goal manifested itself when the Association, at its 1873 meeting in Tuscaloosa, adopted the constitution as proposed by Dr. Cochran, which, except for minor modifications, is the one under which the Association now operates. Its provisions included a State Board of Censors composed of five members of the Association to discharge, among other functions, those attendant upon the examination of all persons proposing to practice medicine in the state of Alabama, and a Board of Censors for each county medical society. Then, on Feb. 19, 1875, the governor of Alabama signed the act making the State Medical Association the State Board of Health, and thus it has continued to this day.

*W. R. Carter*





## ORGANIZATION SECTION

### PROGRAM OF THE ASSOCIATION

The third annual general planning meeting of the Association was held at the Association's state headquarters in Montgomery on June 20 and 21, and the same procedure was followed as in the past.

The first day was devoted to work sessions in which the attendants were divided into three groups. Advisory Committee members sat with committee chairmen in their respective bureaus for discussion of reports on accomplishments during the past year and plans for the current year. This year emphasis was placed upon new programs for the respective committees as well as proper continuation and expansion of present projects. Each bureau integrated plans of individual committees into a program for the bureau. On Sunday morning the three bureau programs were presented to the assembly and the proposed programs were welded into a definitely stated plan of action for the Association.

A detail report of the Association's program for the coming year will be published in the next issue of the Journal.

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### THE AMEF DRIVE

The annual American Medical Education Foundation campaign was conducted in May under the direction of committee chairman Henry G. Hodo, Jr.

Alabama's goal this year was \$15,000.00, according to Dr. Hodo. As of June 1, gifts in the amount of \$4,201 were contributed through the office of the State Medical Association.

Dr. Hodo pointed out that these contributions went to the support of the medical schools throughout the country, and that he had received inquiries as to how the money was used.

The majority of schools, according to deans' letters received by AMEF, used all or part of the grant for augmenting salaries, but other uses range from providing air conditioning units for laboratories to support of a Humanities Course giving training to medical students in the cultural aspects of medicine.

Nearly all of those who wrote "thank you" letters to the Foundation commented on the useful-

ness of totally unrestricted money. A letter from the University of Minnesota puts it this way: "The lack of restrictions upon the way in which (the funds) may be used makes them particularly valuable in meeting a host of essential, educational needs of our medical school." Washington University, St. Louis: "We should not have been able to expand our program to its present degree without unrestricted gifts . . . as (those) provided by the Foundation." Albany Medical College: "The College is very appreciative of the Foundation's efforts to provide these unrestricted funds which permit it to progress beyond the limitations imposed by its own private sources of income. We have almost come to depend on A. M. E. F. as one of our few regular sources of 'Hard money'. . ." Cornell University: "Making funds available for unrestricted use makes it possible for us to use these funds to greatest advantage." University of Pittsburgh: "One of the significant features of Foundation money is the fact that it is unrestricted. . . . We can place this support most effectively to strengthen the medical school teaching program at our school." Vanderbilt University: "Money from this source is completely unrestricted and thus may be used in the area of greatest need, and an area that changes from year to year and from school to school."

Reports indicate that most schools utilized the money for several purposes. Only 34% reported single use of the grants and of these the predominant use was in the area of faculty salaries; approximately 28% of the total use was exclusively for instructional budgets with the additional six per cent divided equally among equipment, scholarships, and use to match other grants. Overall, 89% reported use of all or part of the grants for salary support; 41% used a part to purchase equipment; 12.5% used some for scholarship and student aid; 16% spent some on research; 5% used a part of their AMEF grant to match other outside grants (usually connected with a building project); 6% of the schools directed some money to better their medical libraries; 6% spent a portion on new building or remodeling; 23% reported use of AMEF grants on personnel or curriculum development programs; and 14% used a portion for travel expenses to send faculty members to medical meetings or to bring visiting lecturers to their various campuses. An indication of the many needs of



each school is apparent from the 23% of the schools who reported two areas where funds were used and 43% who reported from three to six uses to which AMEF funds were put.

A view of the versatility and use of the AMEF grants is provided by the following additional excerpts from some of the letters:

"I can point out the following examples of items in our budget that are approximately equal to the amount of the grant: salary for chief librarian; salary of full-time instructor in anatomy or bacteriology; the supply and equipment budget of the department of anatomy. In other words, if the grant were discontinued we would have to discontinue one of the above important items or a similar item unless we could find new money for an equivalent amount."

"Without the help of these grants, we would not be able to retain many members of the clinical faculty and to maintain the standards which all of us desire."

"There is no doubt that the availability of the AMEF grant has in several instances enabled us to take care of emergency situations in attracting or retaining key faculty personnel."

"It is no exaggeration to say that there have been many times when this school would have been in much more serious condition financially if this Fund had not been able to help us through the tight spots."

"Every major basic science department has *benefited* from the fund."

These letters point out the importance of your participation in the annual AMEF fund raising drive.

Dr. Hodo and members of his committee are to be commended for their excellent work in carrying out this program.

## LEGISLATURE IN ACTION

The Medical Association has approved four bills that are now before the Legislature. These four bills will make some major changes in the Medical Practice Act. By the time this issue of the Journal is published these bills may have become law. The following is the first of these four bills and deals with the basic science law.

To Be Entitled An Act To provide further regulations governing the qualifications and eligibility of persons to engage in or be admitted to the practice of the healing arts; creating the State Board of Examiners in the Basic Sciences to administer the Act, and providing for its organization, jurisdiction, authority, powers, and duties; imposing fees and charges and providing for their use; prescribing penalties.

Be It Enacted by the Legislature of Alabama:

Section 1. This act shall be known as the "Alabama Basic Science Law."

Section 2. Definitions for the purpose of this act:

(a) The term basic sciences within the meaning of this act are: Anatomy, Physiology, Chemistry, Pathology, and Bacteriology.

(b) For the purpose of this act, the healing arts include any system, treatment, operation, diagnosis, prescription or practice for the ascertainment, cure, relief, palliation, adjustment or correction of any human disease, ailment, deformity, injury or unhealthy or abnormal physical or mental condition.

(c) A certificate is a certificate of proficiency in the basic sciences.

(d) A license is a certificate issued to a person authorizing him or her to practice the healing arts.

Section 3. Basic Science Certificate Required. No person shall be permitted to take an examination for a license to practice the healing arts or any branch thereof, or be granted any such license, nor to take an examination given by a branch board of the healing arts to obtain a certificate of qualification, unless he has presented to the Board or officer empowered to issue such license, or certificate of qualification, a certificate of proficiency in the basic sciences issued by the Alabama State Board of Examiners in the Basic Sciences. In case the examination is waived, as hereinafter provided, the Alabama State Board of Examiners in the Basic Sciences shall still issue the certificate required in this section.

Section 4. Alabama State Board of Examiners in the Basic Sciences. Within sixty (60) days after this act takes effect, the State Board of Education shall appoint an Alabama State Board of Examiners in the Basic Sciences, hereinafter referred to as the Board, consisting of five (5) members, no one of whom is a practicing member of the healing arts or holds a degree therein. Of the members first appointed, one (1) shall serve for a term of one (1) year, and until his successor shall be appointed and qualified; one (1) shall serve for a term of two (2) years, and until his successor shall be appointed and qualified; one (1) shall serve for a term of three (3) years, and until his successor shall be appointed and qualified; one (1) shall serve for a term of four (4) years, and until his successor shall be appointed and qualified; and one (1) shall serve for a term of five (5) years, and until his successor shall be appointed and qualified. Thereafter at the expiration of the term of each member of the Board first appointed, his successor shall be appointed by the State Board of Education for, and shall serve for, a term of five (5) years, and until his successor shall be appointed and qualified. On the death, resignation or removal from the State of Alabama of any member, or upon the occurrence of a vacancy on the Board for any other causes to be determined by the Board of Education, the State Board of Education shall fill the vacancy by appointment for the unexpired portion of the term and until the successor is appointed and qualified. Every member shall serve until his successor is appointed and qualified. Each member of the Board shall be selected because of his knowledge of one or more of the basic sciences named in this Act, and each member shall be a professor, or an assistant or associate professor or an instructor on the faculty of an institution of higher learning within the State of Alabama, but not more than three (3) of whom shall come from the same institution. Each member shall have resided within the State not less than one (1) year next preceding his appointment.

Section 5. Organization of the Board. The Board shall organize as soon as practicable after its appointment. It shall have authority to elect officers, to adopt a seal, and to make such rules and regulations, not inconsistent with the law, as it deems expedient to carry this act into effect. The Board shall have authority to appoint a Secretary to the Board who is not a member



thereof and is not a practicing member of the healing arts or holds a degree therein, and to fix his salary; such salary shall be paid from the funds of the Board. The Board shall keep a record of its proceedings, which shall be prima facie evidence of all matters contained therein. Any member of the Board or the Secretary shall have the power to administer oaths, and a majority of the Board shall constitute a quorum for the transaction of business.

The Secretary shall give a bond in such sum as shall be fixed by the Board, with sufficient sureties to be approved by the Board, for the faithful performance of his duties. Such bond shall be made in favor of the State of Alabama and said Board, and when approved shall be filed in the Office of the Secretary of State.

Each member of the Board shall be paid twenty-five (25) dollars per day for each day actively engaged in the discharge of his duties, and the time spent in going to and returning from meetings of the Board shall be included in computing such time. In addition to this per diem, each member of the Board shall receive actual and necessary expenses including the expense of transportation incurred while engaged in the performance of the duties of the Board. The compensation of the members and such expenses and all other expenses of the Board incurred in carrying out the provisions of this Act shall be paid out of the fees received from applicants and other monies or funds accruing to the credit of the Board. All such fees, monies and other funds are hereby appropriated to be used by the Board for the purposes of carrying out the provisions of this act. All expenditures from appropriations to said Board shall be approved in writing by the Chairman thereof and the warrant shall be signed by the Secretary.

Section 6. Fees Payable by Applicants. The fee for examination by the Board shall be twenty-five (25) dollars. There shall be no fee for one (1) subsequent re-examination, but the fee for any re-examination beyond this first one shall be the same as for the original examination. The fee for the issuance of a certificate in the case of a waived examination, as hereinafter provided, shall be fifteen (15) dollars. All fees shall be paid to the Secretary of the Board and thereafter remitted to the general fund of the State Treasury for the use of said Board.

Section 7. Examinations. The Board shall conduct examinations at such times and places as it deems best, provided, however, that due consideration be given to the times that the boards of the various branches of the healing arts may give their examinations.

Every applicant, except as hereinafter provided, shall be examined to determine his knowledge, ability and skill in the basic sciences. The examinations shall be conducted in writing, in English, and in such manner as to be entirely fair and impartial to all individuals and to every school or system of practice. All applicants shall be known to the examiners only by numbers, without names or other method of identification on examination papers by which members of the Board may be able to identify such applicants or examinees until after a certificate is granted or refused.

To be granted a certificate, an applicant must receive a credit of seventy-five (75) per cent or more in each of the basic sciences. An applicant may not apply for more than one re-examination unless he presents proof satisfactory to the Board of additional study in the basic sciences sufficient to justify re-examination. On a re-examination within six (6) months of the original examination, the applicant shall be examined only in the basic sciences on which he failed to receive credit of

seventy-five (75) per cent or more. On all subsequent re-examinations the applicant shall be examined in each basic science.

Section 8. Requirements for Certificates. No certificate shall be issued by the Board unless the person applying for it submits evidence, satisfactory to the Board, (1) that he is a citizen of the United States; (2) that he is not less than nineteen (19) years of age; (3) that he is a person of good moral character; (4) that he was graduated by an accredited high school or a school of equal grade, or that he possesses educational qualifications equivalent to those required for graduation by such accredited high school; and that he has studied a branch of the healing arts at a recognized professional school for not less than two (2) scholastic years, and has successfully completed in such school the subjects embraced in the basic science examination, provided also that the school must be approved as maintaining at the time of such study a standard satisfactory to the Board, which standard shall be based upon the gradings of the following associations: For medical schools, the American Medical Association; for osteopathic schools, the American Osteopathic Association; and for chiropractic schools, the International Chiropractors Association or the National Chiropractic Association, Incorporated; (5) that he has a comprehensive knowledge of the basic sciences as shown by his passing the examination given by the Board as by this act required. This shall not be construed to prevent the issuance of certificates under the provisions of Section 9 of this act.

Any person desiring to take the examination for a certificate of proficiency in the basic sciences shall make application to the Board at least fifteen (15) days before the examination, on a form provided by the Board. Such application must be accompanied by the examination fee and such proof as is necessary to show the eligibility of the candidate to take such examination. All applications shall be in accordance with the rules of the Board and shall be signed and verified by oath of the applicant.

Section 9. Waived Examinations. The Board may in its discretion waive the examination, or any part thereof, required by Section 8 and issue a certificate when proof satisfactory to the Board is submitted, showing (1) that the applicant has passed in another State, Territory, or the District of Columbia, an examination in the basic sciences, or the waived portion thereof, either before a board of examiners in the basic sciences or before a state board authorized to issue licenses to practice the healing arts or before the National Board of Medical Examiners; and (2) that the requirements for such examination are not less than those required by this act as a condition precedent to the issuance of a certificate.

Section 10. Appeal. In case an applicant is refused admittance to an examination or is refused a certificate by the Board, such applicant may within thirty (30) days apply to a judge of the circuit court of Montgomery County for a writ requiring the Board to show cause why the admittance or certificate was refused. In such cases service of process may be had upon the Secretary of the Board. The burden of proof shall be upon the petitioner to establish his right to be examined or to be granted a certificate. It shall be the duty of the Attorney General and of the Circuit Solicitor or other prosecuting officer to represent the Board in the proceeding. The judgment of the said judge of the circuit court upon the issue tried shall be subject to appeal to the Supreme Court of Alabama. Notice of such appeal to the Supreme Court must be filed within thirty (30) days from



the date of the order appealed from.

Section 11. **Certificates and Licenses Void.** Any basic science certificate or any license to practice the healing arts, or any branch thereof, issued contrary to this act shall be void. Any license or certificate of authority to practice the healing arts, or any branch thereof, based upon a void basic science certificate shall be void and shall be so adjudged by any circuit court in which the trial of a suit to adjudge the same void or cancel or revoke a license to practice the healing arts may be had. The procedure for such revocation or cancellation shall be in accordance with the provisions of the act under which such license was issued authorizing the cancellation or revocation of licenses for the practice of the healing arts generally. Any certificate of proficiency issued by the Board shall become void upon the revocation of the license of the holder thereof to practice the healing arts or any branch thereof.

Section 12. **Practice Without Certificate Forbidden.** Except as hereinafter provided, any person practicing the healing arts, or any branch thereof, without having obtained a valid certificate from the Alabama State Board of Examiners in the Basic Sciences shall, upon conviction, be fined not less than fifty (50) dollars nor more than five hundred (500) dollars at the discretion of the jury, and, in addition, may be imprisoned in the county jail at the discretion of the trial judge for not exceeding six (6) months; and for a second or subsequent offense the punishment shall be a fine of not less than one hundred (100) dollars nor more than five hundred (500) dollars at the discretion of the jury, and imprisonment in the county jail for not exceeding twelve (12) months, the term of such imprisonment to be fixed by the trial judge. Each day of such violation shall constitute a separate offense, and in no case shall the person convicted be entitled to recover anything for the services rendered.

Section 13. **Fraudulent Certificate Forbidden.** Any person who obtains a basic science certificate by fraudulent means or who forges, counterfeits, or fraudulently alters any such certificate shall be punished by imprisonment in the penitentiary for not less than two (2) nor more than five (5) years, the term of imprisonment to be fixed by the trial judge.

Section 14. **Bribery Forbidden.** Any person who shall bribe, or offer, or attempt to bribe any member of the Alabama State Board of Examiners in the Basic Sciences authorized to issue a certificate of proficiency in the basic sciences, for the purpose of obtaining a certificate of proficiency in the basic sciences, shall be punished by imprisonment in the penitentiary for not less than two (2) nor more than five (5) years, the term of imprisonment to be fixed by the trial judge.

Section 15. **Fraudulent Licenses Forbidden.** Any person who knowingly obtains for himself a license to practice the healing arts, or any branch thereof, without first obtaining a certificate of proficiency from the Alabama State Board of Examiners in the Basic Sciences created by this act, or who aids, advises or assists another in so doing, or any person who shall present to a licensing board authorized to grant licenses to practice the healing arts, or any branch thereof, a certificate obtained from the Alabama State Board of Examiners in the Basic Sciences by dishonesty or fraud, or by any forged or counterfeit certificate of proficiency, or who knowingly aids, advises or assists another in so doing, shall, upon conviction, be punished by a fine to be fixed by the jury of not less than one hundred (100) dollars nor more than two thousand (2,000) dollars, and in addition thereto the trial judge may impose additional

punishment by imprisonment in the county jail or hard labor for the county not to exceed twelve (12) months.

Section 16. **Jurisdiction to Prohibit Unlawful Practice.** The circuit courts of this state are hereby vested with jurisdiction and power to prohibit the unlawful practice of the healing arts in a proceeding or action in the nature of quo warranto, commenced and maintained under the provisions of Title 7, Section 1133, et seq., Code of Alabama 1940, as the same is now or may be hereafter amended, brought by the Board, or any member thereof, or by any citizen of this state in the county in which the alleged unlawful practice occurred or in which the defendant resides. If the action is commenced by the Board, or a member thereof, no bond or security shall be required to commence and maintain such suit. It shall not be necessary for a circuit judge to direct such action to be commenced.

Section 17. **Proceedings to Prohibit Unlawful Practice.** If, upon final hearing, it is shown that the defendant has been unlawfully practicing the healing arts as set forth in this act, the court shall order said defendant to refrain from such unlawful practice and such order may extend to all counties of the state. The practice and procedure in such cases shall be the same, as near as may be, to actions in the nature of quo warranto proceedings provided for in Title 7, Section 1133, et seq., Code of Alabama 1940, as the same is now or may hereafter be amended. The remedy by an action in the nature of quo warranto proceedings herein given is in addition to the criminal prosecution and punishment otherwise provided for in this act.

Section 18. **Report of Conviction or Order. Suspension or Revocation of License.** It shall be the duty of the clerk or the register of the court wherein any conviction is had under the provisions of this act or any order made and entered prohibiting a person from unlawful practice to report the same to the Board, which will thereupon declare void the certificate of proficiency in the basic sciences of the defendant.

Section 19. **Act Cumulative.** The provisions of this act are cumulative and any remedy, penalty or procedure provided herein shall be in addition to those prescribed by other provisions of law.

Section 20. **Present Licensure Acts Not Repealed.** No provisions of this act not in conflict with existing law shall be construed as repealing any statutory provision in force at the time of its passage with reference to the requirements governing the issuance of licenses to practice the healing arts or any branch thereof, or as in any way lessening such requirements.

Section 21. **Exemptions.** Nothing in this act shall be construed to apply to any person lawfully authorized, in the manner then provided by law, to practice the healing arts in this state on the date this act takes effect.

Nothing in this act shall be construed to apply to any person lawfully authorized, under Section 21 of that certain act of the Legislature creating the State Board of Chiropractic Examiners, to practice chiropractic in this state.

Nothing in this act shall be construed to prevent or forbid the domestic administration of family remedies, or the manufacture or sale of proprietary medicines in the state by licensed druggists, or the advertising or sale of commercial appliances or remedies, nor prevent or forbid the fitting by non-itinerant persons or manufacturers of artificial eyes, limbs or other apparatus or appliances, provided that these specified activities are conducted in conformity with the law of Alabama authorizing and regulating such activities.



Nothing in this act shall be construed to prevent the furnishing of first aid or medical assistance in case of a genuine emergency in the absence of a qualified practitioner.

Nothing in this act shall be construed to prohibit or require the licensing of the practice of the religious tenets of any church in the ministration to the sick or suffering by mental or spiritual means without the use of any drug or material remedy, whether gratuitously or for compensation.

Nothing in this act shall be construed to apply to or interfere with dentists, chiropodists, or pharmacists within the scope of their usual professional activities, who are duly qualified and registered under the laws of this state, nor shall this act apply to registered optometrists authorized to practice under the laws of this state while engaged in such practice, nor shall this act apply to clinical psychologists.

Nothing in this act shall be construed to apply to or to

interfere with nurses or registered midwives who publicly represent themselves as such, within the scope of their usual professional activities.

Section 22. Provisions Severable. The provisions of this act are severable; and if any part or parts of the act shall be declared unconstitutional or void, such declaration shall not affect the remainder of this act.

Section 23. This act shall become effective on January 1, 1960, after its passage and approval by the Governor, or its otherwise becoming a law, provided that three certain bills have become law on or before said effective date, to-wit, a bill creating a Board to be known as the "State Licensing Board for the Healing Arts" (H. B. 150 or S. B. 75), and a bill amending and repealing certain sections contained in Title 46, Chapter 13 in the Code of Alabama of 1940, relating to the practice of medicine and the State Board of Medical Examiners (H. B. 153 or S. B. 74), and a certain bill creating a State Board of Chiropractic Examiners (H. B. 152 or S. B. 77).

## ASSOCIATION FORUM

### ESSAY CONTEST WINNER—

#### The Advantages of Private Medical Care

By

Virginia Lee Wilder



(Editor's Note: Miss Wilder, a member of the junior class at Cullman High School, won fifth place in the 13th Annual Essay Contest sponsored nationally by the Association of American Physicians and Surgeons in cooperation with The Medical Association of the State of Alabama and the Woman's Auxiliary to the Association. Fifth prize of \$100.00 was presented to Miss Wilder at a recent meeting of the Cullman County Medical Society by Dr. John M. Chenault, member of MASA's Committee on Public Relations.)

One of the loudest cries of the advocates of free or socialized medicine is, "Everyone, no matter how rich or poor, may receive medical care when needed." Such a statement is very misleading. One could easily and incorrectly assume that at the present time many suffer because of inability to pay for medical care. In 1943, Wilbert C. Davison, M. D., said:

"The survey of the Committee on the Cost of Medical Care shows that only 5 per cent of those presumed to be in need of medical care failed to obtain it. Failure to secure such care is due primarily to failure to obtain knowledge of where services were available and refusal or neglect to obtain services, and only 3 per cent inability to pay."<sup>1</sup>

In 1953, a survey made by the Federal Reserve Board found that of 53,000,000 families, 80 per cent

1. Wilbert C. Davison, M. D.: Should American Medicine Be Socialized?

Journal of the American Medical Association, August 14, 1943. Reprinted: Clarence A. Peters, compiler, Free Medical Care. New York: The H. W. Wilson Company, 1946, p. 89.



reported no medical debt whatsoever and less than 3 per cent needed help to cover medical bills.<sup>2</sup>

The above figures, and others available, almost make a laughing stock of the following statement issued by the British Medical Association:

"When medical care becomes too costly for the average citizen, two alternatives lie before us. Either the full . . . treatment can be provided for those who are able to pay for them, and the remainder must accept a second rate medical service; or some system of sharing the cost of medical care throughout the community must be devised."<sup>3</sup>

Today the United States is the healthiest large nation in the world. Many diseases which once were fatal have been brought under control. Infant death rates have fallen remarkably, and babies born today can expect to live twenty years longer than those born in 1900.<sup>4</sup>

Often a good thing is not fully appreciated until we have to give it up. Just what would be our status if we were forced to give up our present system of private medical care?

Probably the first change noticed would be the doctor-patient relationship which exists today. In the past, the American Medical Association has encouraged doctors to discuss freely the cost of medical treatment and other matters of vital importance to the patient. We, as patients, know the value of such a relationship. We are a person to our doctor, not merely a number on a card which needs treatment and many prescriptions.

Our doctors throughout the world are interested in the health and welfare of each of their patients. They want to give them the best care they are capable of giving. This is what they have trained and studied for years to do. Is it right then for the government to take away this privilege? Under a plan of free medical care, the physicians are no longer able to give their entire time to the treatment of the ill. Instead they must spend hours each day in filling out forms for each patient, in completing complicated government reports, writing letters to specialists, squabbling with authorities, attending committee meetings, etc. This leaves the doctor absolutely no time for studying to keep abreast with modern medicine, or for any type of research for preventives and curatives.

British doctors are also forced to take care of petty ailments, while patients with serious ones are left to suffer. For instance, within a three-year period, every second Britisher received "free" dental treatment, while many school children, whose teeth were decaying, were going without dental care. Hospital beds are filled with chronically and incurably ill patients, and patients whose sicknesses are minor, while old people and people with curable diseases are being found dead on the streets.<sup>5</sup> Yet the doctors are not able to do anything about these conditions; they have a region to cover and aren't allowed to show any discrimination whatsoever.

These regions were set up to contain an equal number of people. However, in London there is a bad lack of apportionment. In the richer districts, there are about twice the number of doctors in proportion to the number of people as there are in the slum and middle-class districts! And this is "equal medical care for everyone!"

Not all of the advantages of our system of private medical care are the physical aspects. Our system seems to have given to our people a healthy mental attitude: that of the feeling of courtesy and respect toward others. For instance, in the reception room of a doctor's office, it is remarkable the consideration shown by everyone. When I was waiting in a doctor's office once, a small boy came in with a badly injured head. He was at once admitted to see the doctor and all those who were waiting said nothing. It happens every day all over this great country of ours! This, and other similar incidents, exhibits the fine feeling of respect and courtesy which has been built up in our American people partly through our setup of private medical care. Now suppose, as the lad was being carried in to see the doctor, a lady had jumped up, crying "We are ahead of him. He ought to wait." Suppose others had joined her, though none were very ill. "Why no one would do a thing like that," you say. No, in a doctor's office under our system of private medicine, probably they wouldn't. But in Britain, it is being done every day.

Many times when a doctor visits a home, someone says to him, "While you're here, you may as well check so and so." Even though the illness of "so and so" is not at all serious, these people pay their taxes, and "have a right" to such service, even at the expense of keeping the doctor from seeing a very ill person. The doctor is bound by law to attend whatever sickness, no matter how trivial, that is asked of him to attend. Thus, there is built up in the minds of the people no thought

2. Walter B. Martin, M. D., President of the American Medical Association, Health and Medical Care in the United States, *Journal of the American Medical Association*, February 13, 1954, p. 589.

3. Melchior Palyi: *How Sick is Socialized Medicine?* Reprinted from *The Freeman*, June 16, 1952, p. 3.

4. Walter B. Martin, M. D.: Health and Medical Care in the United States, *Journal of the American Medical Association*, February 13, 1954, p. 589.

5. Melchior Palyi: "How Sick Is Socialized Medicine?", reprinted from *The Freeman*, June 16, 1952, p. 2.



as to the feelings of others. This is a very unhealthy attitude for people to take.

"But why shouldn't we take everything we can get? We pay as much as anyone." How true this is! Since England has turned to free medical care, taxes have been raised to as high as 12 per cent. Yet each year the program comes out in debt. In order to "economize," nurses have been released, thereby closing hospitals; and, despite the growing population, doctor's salaries have remained constant. Instead of these *vital* people drawing an adequate salary, clerical workers are employed by hospitals to take care of the vast number of records and files that must be kept for the government. Everywhere the number of such workers has doubled and tripled.

After discussing the position of various persons involved from the point of free medicine and from that of private care, what might we say are the greatest disadvantages of free or socialized medicine, and what are the greatest advantages of our own system of private medical care?

Probably two of the greatest disadvantages of socialized medicine might be combined, for both lead to the same end—complete socialism. These are, namely, the danger to the home and family, and the danger to the working public. If doctors can be told by the government how to do their work, can be made to work with an inadequate salary, and can be limited in their capacity for self-satisfaction received from their work; then how long are all other workers free from the same restrictions? Only until the government decides to take over them?

Then we are faced with the problem of family living. If each family can pay a fixed sum each year and receive equal medical care, why couldn't each family also pay such a sum for housing, food, clothing, and entertainment and let everyone have the same of everything? In other words, why couldn't we become a socialized country altogether?

This is exactly what would eventually happen. With free medicine as a stepping stone, our free nation would slowly be eaten away by the gnawing teeth of socialism.

But as we look around our country, we see not the dim picture of a nation headed for socialism. We see that a man still has the right to strive and toil to win a place in the world for himself and his family, just as the pilgrims did at the first settling of this country, and just as men have done all through the years. People still respect the other person and his right of "life, liberty, and the pursuit of happiness." As long as the incentive to work to make ourselves better persons, and the respect for the rights of our fellowman exist, our

nation will not, can not, fall into the hands of socialism.

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**Offer Hints for a Successful Suntan**—Clock-watching is not advocated in business, but it is suggested for the worker and his family who want to acquire a suntan.

The June issue of *Today's Health*, a publication of the American Medical Association, reports that clock-watching can be the difference between acquiring an attractive tan or a painful burn.

Such clock-watching, the article stated, establishes a timetable of gradual exposure which minimizes sunburn and allows enough time for the skin to tan evenly without excessive peeling.

The suggested timetable is:

—First day, expose the skin to the sun from 15 to 20 minutes. This means you are entitled to the same length of time on both your stomach and back.

—Second day, increase the time exposure by one-third. This would mean to approximately 30 minutes.

—Third day, again increase the time spent in the sun by one-third, or to about 40 minutes.

The article said that this same exposure timetable should be continued day after day. By the fourth day, new pigment should begin darkening the skin. After a week of continual exposure, the skin should be sufficiently thickened and pigmented to provide considerable protection against burning sunshine.

The author, Donald G. Cooley, Scarsdale, N. Y., said that the timetable method is practical since there is no need for suntan preparations. These preparations can be valuable, he continued, but they do not in any way increase the speed of one's natural tanning.

He said, "It is theoretically possible to get a bad sunburn, despite lavish use of one of these preparations, if you stay long enough in the hot sun. Protection is usually better if one coating is applied, allowed to dry, then followed with a second coat."

Mr. Cooley also warned of the effects of sun on the eyes. He pointed out that bright, glaring, dazzling sunlight can lower the sensitivity of the eyes to dim light, thereby contributing to accidents.

"The simple remedy is to wear dark glasses when you are going to be exposed to exceedingly dazzling sunshine," he concluded.





# around the state



In behalf of the graduating class of the Medical College of Alabama, Allen U. Hollis, class president, is shown being congratulated upon completing four years of study by Dr. James G. Donald (left) of Mobile, member of the Association's Committee on Blue Cross-Blue Shield, and Herbert F. Singleton, managing director of Blue Cross-Blue Shield of Alabama.

Dr. John M. Chenault, Decatur, member of the Association's Committee on Public Relations, presents Virginia Lee Wilder, Cullman High School junior, with a check of hundred dollars for winning fifth place in the national essay contest.

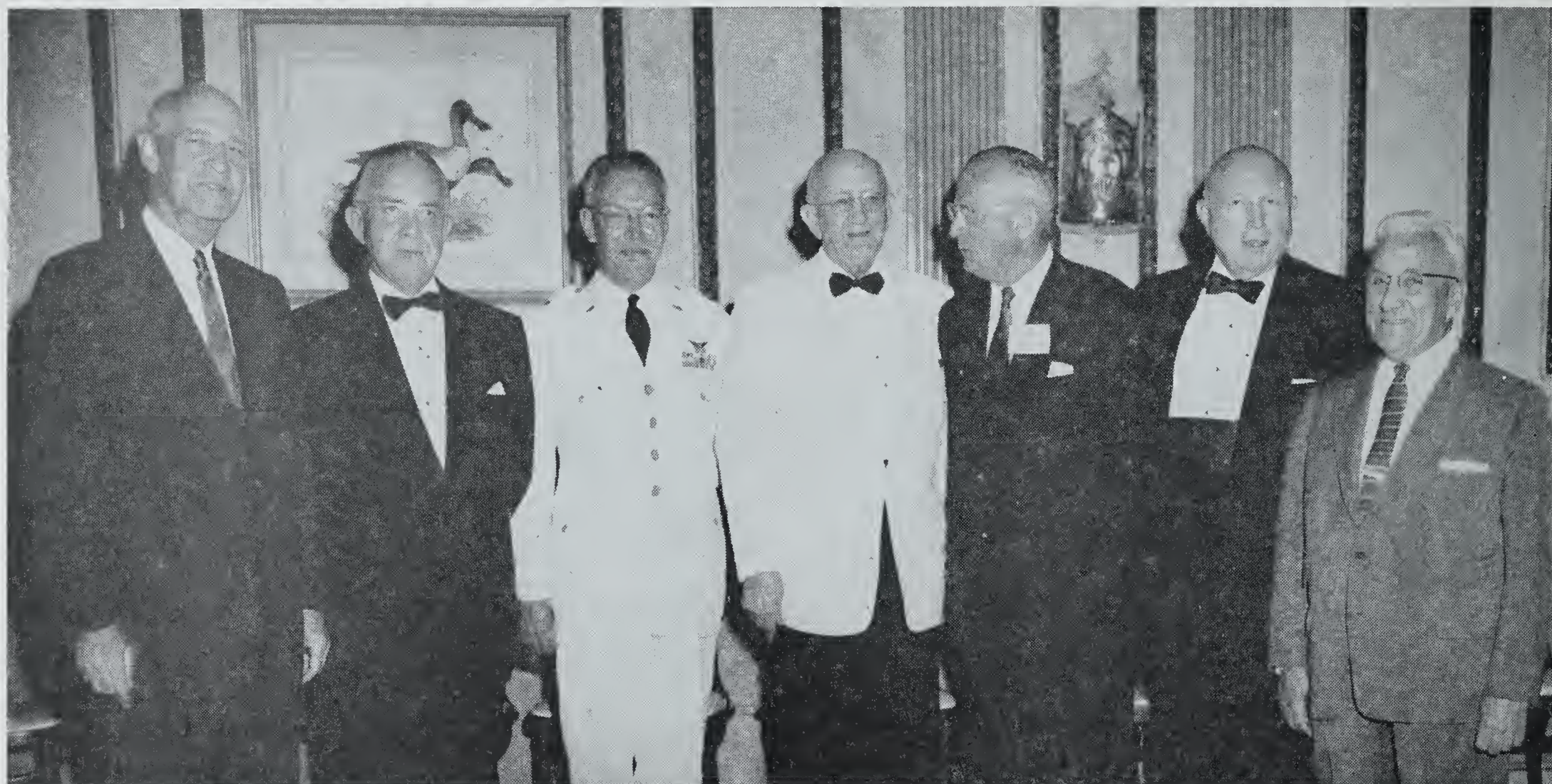


Members of the senior class of the Medical College of Alabama and their dates and wives were honored at the fifth annual Blue Cross-Blue Shield Graduation Dinner Dance at the Tutwiler Hotel in Birmingham on May 29.



Drs. W. A. Daniel, Montgomery, Robert O. Harris, Mobile, T. C. Nolan, Montgomery, members of the White House Conference Committee of the Alabama Chapter of American Academy of Pediatrics, are shown formulating plans for the forthcoming White House Conference on Child Health, to be held in 1960 in Washington, D. C.





Key speakers at the Alabama Surgical Section of the International College of Surgeons meeting at Huntsville, May 21-22, were (left to right) Senator Lister Hill, Montgomery; Dr. John B. O'Donoghue, Chicago; Briga-

dier General John A. Barclay, Redstone Arsenal; Dr. E. V. Caldwell, Huntsville; Dr. Claude J. Hunt, Kansas City, Mo.; Admiral Ross T. McIntire, Chicago, and Dr. Moses Behrend of Philadelphia.

## STATE MEDICAL SPECIALTY GROUPS

### OFFICERS FOR 1959

#### ALABAMA ACADEMY OF GENERAL PRACTICE

President—W. J. B. Owings, Brent  
 President-Elect—W. A. Edwards, Wetumpka  
 Vice Presidents—M. C. Holcomb, Birmingham; C. L. Lawson, Gadsden; G. C. Murchison, Jr., Montgomery; W. T. Wright, Mobile  
 Executive Secretary-Treasurer—Dorothy M. Flowers, Montgomery

#### ALABAMA ACADEMY OF NEUROLOGY AND PSYCHIATRY

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 Vice President—James K. Ward, Birmingham  
 Secretary-Treasurer—Hardin M. Ritchey, Birmingham

#### ALABAMA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

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 Vice President—John A. Jones, Jr., Montgomery  
 Secretary-Treasurer—Karl Benkwith, Montgomery

#### ALABAMA ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

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#### ALABAMA ASSOCIATION OF PATHOLOGISTS

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 Secretary-Treasurer—Rhett P. Walker, Mobile

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#### ALABAMA ORTHOPAEDIC SOCIETY

President—Alfred R. Earl, Mobile  
 Vice President—Paul D. Everest, Montgomery  
 Secretary-Treasurer—Kenneth M. Hannon, Mobile

#### ALABAMA RADIOLOGICAL SOCIETY

President—William Askew, Auburn  
 Vice President—Neal Flowers, Mobile  
 Secretary-Treasurer—Milton Ragsdale, Birmingham

#### ALABAMA SOCIETY OF ANESTHESIOLOGISTS

President—Vernon N. Balovich, Spring Hill  
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#### ALABAMA SOCIETY OF INTERNAL MEDICINE

President—H. H. Hutchinson, Montgomery  
 President-Elect—J. O. Finney, Gadsden  
 Secretary-Treasurer—W. Marvin Woodall, Jr., Birmingham





## MEDICAL CENTER NEWS

### 64 STUDENTS RECEIVE M. D. DEGREE

An impressive campus ceremony on May 31 climaxed graduation activities for 64 medical students from the University of Alabama Medical Center.

Degrees were awarded to: Seth W. Poole of Abanda; William T. Creel of Abbeville; W. Douglas Godfrey of Adamsville; Philip M. Awtrey of Ashville; T. Clinton Hurd, Atmore; David L. Angle, Norton M. Baker, Jr., Clint Brooks, Jr., Tom Byrne, John G. Cocoris, William Michael Daly, Joseph Donald, Jerome Ippolito, Harold J. Kelly, Donald F. Little, Jim Lyons, Oliver Charles Mitchell, Andrew Morris, Harry Prater, Jack E. Reagan, John C. Rochester, Roy Roddam, Conrad Rowe, and Thomas E. Stevens, all of Birmingham; James P. Temple, Sylacauga; Alex L. Tucker, Dadeville; Kenneth Strother, Decatur; Patrick B. Jones, Dothan; Harry L. Phillips, Eclectic; Rube R. Hundley, Enterprise; Sara Jo Daniel, Fairhope; John B. Isbell, III, Fort Payne; and William O. Patterson, Jr., Fort Mitchell.

Joe D. Bonds of Haleyville; James Walker, Huntsville; Joseph S. Legg, Jasper; Craig Wesson, Lanett; Morgan Moore, Luverne; William E. Fann, Herbert P. Kinsey, Joseph D. Kovacs, Jr., Robert S. Liebeskind, Bryant N. Sheehy, and John S. Taylor, all of Mobile; Rodney Adams, G. Carl Hester, Jr., and Steve Russell, all of Montgomery; Max M. Bynum, Oneonta; William S. Warr, Opelika; Sanford Reitman, Philadelphia, Pennsylvania; Frank M. Cauthen, Roanoke; Allen U. Hollis, Sulligent; James Marvin Washam, Jr., Talladega; J. O. McCullough, Tallassee; Joseph L. Motes, Tarrant; J. Kirven Brantley and Gilbert Spencer, Troy; Bobby P. LeMay, Town Creek; Margaret Averrett, Tuskegee; Otis D. Mitchum, Whistler; Wyatt E. Collins, Woodville; True W. Robinson, Birmingham; Charles J. Faulk, III, Dothan; and Garland C. Hall, Gadsden.

### DR. ROTH IS NAMED NEW RADIOLOGY HEAD

Dr. Robert Earl Roth has been named chairman of the Department of Radiology at the University of Alabama Medical Center.

His appointment was announced by Dr. Robert C. Berson, dean of the Medical College and vice president for health affairs of the University of Alabama.

Dr. Roth, who was elevated from the rank of associate professor of radiology, succeeds Dr. Garland Wood as chairman of the department. Dr. Wood is going into private practice in Flagstaff, Arizona.

The new department head has been on the Medical Center staff since 1955. He received his medical degree from the University of Illinois and took a rotating internship at St. Louis County Hospital, Clayton, Mo. He then served as resident radiologist and assistant chief radiologist at the Veterans Administration Hospital in Nashville and as resident radiologist at Vanderbilt University Hospital.

### N. I. H. ANNOUNCES GRANTS TO MEDICAL CENTER

Four health research and training grants totaling \$95,086 for the coming year have been awarded the University of Alabama Medical Center by the National Institutes of Health.

The Center has received the following grants.

1. For mental health training program under Dr. James N. Sussex—\$26,250, with \$30,000 additional assured for the next two years.
2. For a training program in epidemiology under Dr. Emanuel Cheraskin—\$47,836.
3. For cancer research under Dr. Basil I. Hichowitz—\$10,000 for the last half of 1959, with \$8,625 committed for next year.
4. For an arthritis fellowship under Dr. Benjamin C. Moffett, Jr.—\$10,000.

### UNIVERSITY HOSPITAL HAS RECORD YEAR

More than 25,000 patients were treated and discharged from the University Hospital and Hillman Clinic during 1958, Matthew F. McNulty, Jr., hospital administrator, announced in his annual report.

This moves the University Hospital to 16th place among general hospitals in volume of service rendered to patients, according to nationwide figures. Mr. McNulty stated that the total is an average of one patient every ten minutes, representing all counties in Alabama.

The report brought out that during the year the hospital continued to operate as the principal teaching facility of the University of Alabama Medical Center.

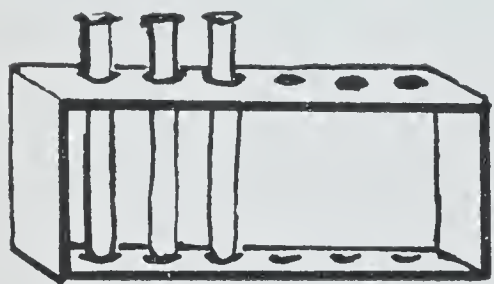


STUDENT HONORED

Marion Connor, medical technologist in the present graduating class at University Hospital, has been awarded a \$100 cash prize for a technological paper presented in competition with those of students in other Alabama schools of medical technology. Her paper on agammaglobulinemia was judged best of eight entries in the contest sponsored by the Alabama Association of Pathologists and the Alabama State Society of Medical Technologists' inter-society committee.

APARTMENT PLANS READIED

Contracts have been signed between the University Medical Center and Architects Henry Sprott Long and Nelson Smith for preliminary plans on apartment units for faculty members and married students.



BUREAU OF ADMINISTRATION

D. G. Gill, M. D.  
State Health Officer

ALABAMA'S MENTAL HEALTH CENTERS

The Division of Mental Hygiene, State Health Department, has just published a report covering the period July 1, 1957-June 30, 1958. It is the most detailed and comprehensive report to be prepared by the division since it was created in 1949. The document includes separate reports from seven of the state's community mental health centers and clinics. (The Huntsville clinic was not in operation during the period covered by the report.) The following statement about these mental health centers, their place in the mental health program, and their needs is taken from the report.

In line with public health philosophy is the "Mental Health Center" concept. We are not operating strictly a group-practice psychiatric clinic, dedicated purely to diagnostic and treatment services for the mentally ill on an outpatient basis. The traditional psychiatric clinic of old attempted to promote miracles—trying to change the awesome picture of mental illness merely by a one-to-one treatment service. The old line psychiatric clinic—aloof from and without identification with the community—hardly has a place in community organization. The mental health center concept implies that we act as the hub for a variety of activi-

ties, all of which are anchored to the philosophy of public health. These activities take the form of research in mental health, education of the community, participation in community planning and organizational activities, and diagnostic and treatment services.

Dr. Richard T. Eastwood, Executive Director of University Affairs in Birmingham, said studies are being made for submission to the board of trustees.

He said that if the Board approves the plans, application for funds will be made to the Federal government for funds.

CANCER GRANT RECEIVED

Tentative plans call for about 128 units at an expenditure of approximately one and one-half million dollars.

The University of Alabama Medical Center received a grant of \$24,871 from the American Cancer Society, according to figures received from the national office.

The grant will be used for cancer research and other work being carried on at the Center.

STATE DEPARTMENT OF HEALTH

Clinical services are, generally speaking, a method of problem control, but by no means the final one, nor even, perhaps, a very effective one. An overhauling of traditional clinical services is undoubtedly necessary if we are to realize the full potential of this control method. We must put into effect ways of extending the influences of our few professional personnel. We must adopt the principle that any child or adult assisted in our centers will serve as an educative springboard for other helping groups. Thus, there is hardly a reasonable justification for routine examinations of school children for classroom placement (application of findings is too circumscribed) or for carrying out extended treatment (except, perhaps, for teaching purposes). By the same token, certain other community mental health activities might hold doubtful value, as frequent public speeches and some types of workshops. Simply because an activity can be classed as "community education" is not, per se, sufficient justification for the activity. The question is not alone extent or number coverage of a service but *depth of influence*, as well.



DEPARTMENT OF HEALTH

One of our principal needs—something that will strengthen the center concept and public health approach and something that has long been overdue, is to make marked improvements in the efficiency and the effectiveness of our mental health center activities. The clinic operation needs some streamlining of its services. At present it is inefficient, with a vast amount of professional time going down the drain waiting for patients who never show up. Outmoded diagnostic and therapeutic procedures prevail and administrative decisions and planning that could result in more efficiency are lagging. We must do something about the long waiting lists of people seeking our clinic services, and we must help them more than we do at the present time. We can achieve more efficiency and effectiveness without increasing our personnel. We can be more efficacious in whatever we do by streamlining services.

One of the considerations at the very heart of effective programming is the housing situation of the mental health center. Mental health programs in local health departments were established in buildings that were not designed to house them. Some of our centers are in modern air-conditioned, comfortable buildings, but they lack utility. Mental health programs, like many other public health clinic programs, need unique arrangements of space along with special physical features. For example, mental health clinic rooms should be soundproof; there should be activity group therapy rooms for older children as well as playrooms for younger ones. One-way vision screens are a must. All of the mental health programs in Alabama have one common characteristic: grossly inadequate housing. There is, however, a bright spot on the horizon in Gadsden: The Health Officer of Etowah County staged a one-man campaign to get adequate space and facilities for his mental health program—and he succeeded! He has a new, eighty-two thousand dollar mental health building program underway that will be a model for the state. Statistics reveal that, in most instances, community mental health programs do not receive adequate financial support from local resources. Thus, a very important aspect of program development in the centers is the obtaining of local funds for expansion and development.

About 7 out of 10 Americans now have some form of health insurance, protection against hospital expense being the most common type, according to the publication *Patterns of Disease*, prepared by Parke, Davis & Company for the medical profession. Next most common type is insurance for surgical expense, followed by that for regular medical expense (which provides payments for physician visits involving nonsurgical care in the physician's office, at home, or in the hospital).

BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

April 1959

Examinations for diphtheria bacilli and Vincent's	54
Agglutination tests	635
Typhoid cultures (blood, feces and urine)	575
Brucella cultures	0
Examinations for malaria	30
Examinations for intestinal parasites	4,585
Darkfield examinations	2
Serologic tests for syphilis (blood and spinal fluid)	24,978
Examinations for gonococci	1,663
Examinations for tubercle bacilli	4,435
Examinations for Negri bodies (smears and animal inoculations)	306
Water examinations	2,186
Milk and dairy products examinations	4,404
Miscellaneous examinations	1,432
Total	45,285

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BUREAU OF PREVENTABLE DISEASES

W. H. Y. SMITH, M. D., Director

CURRENT MORBIDITY STATISTICS

1959

	Mar.	Apr.	E. E.* Apr.
Typhoid and paratyphoid	0	0	3
Undulant fever	1	2	1
Meningitis	11	8	9
Scarlet fever	171	252	46
Whooping cough	27	33	69
Diphtheria	0	2	5
Tetanus	1	8	1
Tuberculosis	199	181	181
Tularemia	1	0	1
Amebic dysentery	0	5	4
Malaria	0	0	0
Influenza	219	74	1048
Smallpox	0	0	0
Measles	673	502	1153
Poliomyelitis	0	0	3
Encephalitis	2	1	2
Chickenpox	346	177	294
Typhus fever	0	0	1
Mumps	57	63	226
Cancer	389	559	395
Pellagra	0	0	1
Pneumonia	246	248	271
Syphilis	128	163	175
Chancroid	3	4	7
Gonorrhea	326	251	311
Rabies—Human cases	0	0	0
Positive animal heads	28	24	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

Age and sex both play a role in the number of physician visits paid in this country, according to the current issue of *Patterns of Disease*, prepared by Parke, Davis & Company for the medical profession. Women use physician services more frequently than men. Also, ratio of physician visits is highest for children under 5 years and for adults of both sexes in the 65-year and over age group.

The publication further reveals that most physician visits (approximately 70%) involve diagnosis and/or treatment of illness. Of such visits, two thirds are related to chronic and one third to acute illnesses. Ten per cent of visits are for general checkup, 7% for immunization, and 4% for prenatal and postnatal care.



DEPARTMENT OF HEALTH

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS  
FOR FEBRUARY 1959 AND COMPARATIVE DATA

Live Births, Deaths, Fetal Deaths, Infant Deaths, and Deaths by Cause	Number Registered During Feb. 1959			Rates* (Annual Basis)		
	Total	White	Non- White	1959	1958	1957
Live births .....	6395	3868	2527	25.8	24.2	26.4
Deaths .....	2361	1438	923	9.5	11.4	8.7
Fetal deaths .....	143	62	81	21.9	18.7	18.0
Infant deaths—						
under one month .....	130	60	70	20.3	19.7	21.0
under one year .....	237	91	146	37.1	43.4	31.2
Maternal deaths .....	4	3	1	6.1	9.9	7.7
<b>Cause of Death</b>						
Tuberculosis, 001-019 .....	28	11	17	11.3	11.0	10.3
Syphilis, 020-029 .....	4		4	1.6	5.7	3.3
Dysentery, 045-048 .....	1	1		0.4	0.4	
Diphtheria, 055 .....						
Whooping cough, 056 .....	2	2		0.8	0.8	
Meningococcal infections, 057 .....	2	2		0.8	1.6	0.4
Poliomyelitis, 080, 081 .....						
Measles, 085 .....	1	1		0.4		0.8
Malignant neoplasms, 140-205 .....	281	209	72	113.6	107.0	111.4
Diabetes mellitus, 260 .....	30	17	13	12.1	13.5	10.7
Pellagra, 281 .....	2	2		0.8	0.4	
Vascular lesions of central nervous system, 330-334 .....	325	178	147	131.4	151.1	114.3
Rheumatic fever, 400-402 .....	1		1	0.4	1.2	
Diseases of the heart, 410-443 .....	779	525	254	314.9	384.7	289.6
Hypertension with heart disease, 440-443 .....	138	61	77	55.8	71.5	52.4
Diseases of the arteries, 450-456 .....	56	41	15	22.6	29.4	16.9
Influenza, 480-483 .....	15	9	6	6.1	26.5	5.4
Pneumonia, all forms, 490-493 .....	77	33	44	31.1	71.0	26.8
Bronchitis, 500-502 .....	9	6	3	3.6	6.1	1.2
Appendicitis, 550-553 .....	3		3	1.2		0.8
Intestinal obstruction and hernia, 560, 561, 570 .....	6	5	1	2.4	3.3	6.6
Gastro-enteritis and colitis, under 2, 571.0, 764 .....	10	3	7	4.0	5.3	5.8
Cirrhosis of liver, 581 .....	17	15	2	6.9	4.5	3.7
Diseases of pregnancy and childbirth, 640-689 .....	4	3	1	6.1	9.9	7.7
Congenital malformations, 750-759 .....	33	25	8	5.2	5.1	4.2
Immaturity at birth, 774-776 .....	45	19	26	7.0	5.9	6.7
Accidents, total, 800-962 .....	176	110	66	71.1	72.3	65.2
Motor vehicle accidents, 810-835, 960 .....	63	43	20	25.5	23.7	28.0
All other defined causes .....	340	182	158	137.4	161.3	129.1
Ill-defined and unknown causes, 780-793, 795 .....	114	39	75	46.1	55.1	34.2

Rates: Birth and death—per 1,000 population; Infant deaths—per 1,000 live births; Fetal deaths—per 1,000 deliveries; Maternal deaths—per 10,000 deliveries; Deaths from specified causes—per 100,000 population.

Motor vehicle accidents killed 36,700 and injured 2,825,000 on U. S. highways during 1958.

Speed was blamed for more than 40 per cent of the traffic deaths and injuries in the U. S. during 1958.

Drivers under 25 years of age were involved in 27 per cent of the fatal accidents in 1958.

Studies by The Travelers Insurance Companies show that driver error caused 85 per cent of the highway accidents in 1958.

Automobile-bicycle collisions during 1958 injured 59,300 persons.

The Travelers Insurance Companies studies show that exceeding the speed limit caused 12,770 deaths and 980,000 injuries during 1958 on our highways.

**Michael Reese Researchers Recommend Polio Boosters**  
—At least one and possibly two booster shots of polio vaccine at yearly intervals are desirable, according to a group of researchers at Chicago's Michael Reese Hospital.

Writing in the June 6 Journal of the American Medical Association, they reported giving a Salk-type polio vaccine to 4,000 children during a five-year period.

In producing the vaccine, the viruses were "killed" through exposure to ultra-violet rays.

A study of the children showed that 12 to 36 months after they had received their first three shots their levels of immunity had dropped from what they had been immediately after receiving the shots.

After a booster injection, the levels reached a higher level and fell less than after the primary immunization; after a second booster there was an even better response, the researchers said.

It seems possible, they said, that polio antibodies once produced are present for life, although at very low levels, and that the host will display a rapid anamnestic reaction to either booster injection or actual virus exposure.

By anamnestic reaction, the authors mean that antibodies that have once been present but have disappeared will be produced by the body when it is "reminded" by a shot or exposure to polio.

Thus, the person who has once shown antibodies is probably immune. Nevertheless, a persistence of demonstrable antibodies is to be preferred, and booster shots will help provide them, the authors said.

The researchers are Albert M. Wolf, M. D.; Howard J. Shaughnessy, Ph. D.; Martha Janota, M. S.; James W. Chapman, M. D.; Ruth E. Church, M. D., and Mildred Moore, B. A.




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## THE DOCTOR AND VOLUNTARY HEALTH INSURANCE

WILLIAM J. RUSHTON

Birmingham, Alabama

Some years before the turn of the century, the great American Poet, Henry Wadsworth Longfellow, in his poem "The Song of Hiawatha," wrote:

"As unto the bow the cord is,  
So unto the man is woman;  
Though she bends him, she obeys him,  
Though she draws him, yet she follows;  
Useless each without the other."

I can think of no more apt way to describe the interdependence of the medical profession and the insurance companies and associations which provide voluntary health insurance. In the ever increasing complexity of our American Society, the medical profession and the voluntary health insurers both "bend and draw" each other in part, just as they both "obey and follow" each other in part. Neither can secure their respective positions without the other; indeed, neither can survive separately.

It is only in comparatively recent years that doctors and insurance companies have begun to be conscious of the fact they have so many problems, and so many opportunities, in common—problems that are capable of solution only by the concerted effort of doctors and insurance companies, opportunities that may not be available to either, if immediate and vigorous effort is not made to solve these problems.

It takes but a glance at the Washington scene to make one acutely aware that we both must work fast and well, if we are to stem the flooding tide toward socialized medicine and socialized insurance.

During the last twenty-five years almost unbelievable progress has been made in medical science. Many diseases that formerly were inevitably crippling

or fatal have been conquered. New techniques in therapy have been discovered that now cure many other diseases. The average life expectancy has increased greatly and the American people enjoy better health generally than ever before. A great variety of highly trained, eminently skilled specialists and technicians are gradually supplanting the old style family doctor. And the horizons of medical knowledge and technical skill continue to lift at an accelerated rate.

This progress and these remarkable accomplishments of your profession have of necessity been achieved at very substantial increases in the cost of health care, costs which are daily attracting nation-wide attention and bringing no small amount of critical comment from Congress, state governments, health insurance authorities, many physicians—and the public, the people who pay the bills.

Perhaps many of you have read the series of articles entitled "Soaring Health Costs" which appeared in the Birmingham Post and other Scripps-Howard newspapers last month. The captions on some of the articles read "Most people convinced hospital costs are too high as rates zoom," "Doctor's earnings gain 305% in 16 years," "Medical spending doubled in the last thirty years." Articles of similar import have also lately appeared in U. S. News & World Report, Newsweek, The Saturday Evening Post, The Wall Street Journal, and other magazines of national circulation.

Periodically the Bureau of Labor Statistics compiles and publishes a Consumers' Price Index using the average prices in 1947 and 1949 as a base of a hundred. According to a recent report of the Bureau, the cost of all commodities and services has increased 23.9% and medical care increased 47%. Of course, the medical care factor is a composite figure and does not reveal at a glance that, while hospital costs have more than quadrupled, the physician and surgeon's fees have, on the aver-

Read before the Association in annual session, Birmingham, April 10, 1959.

The author is President of the Protective Life Insurance Company.



age, not increased as much as this.

Nevertheless, the average citizen makes little or no effort to look beneath the surface and discover the revolution that has taken place in the whole field of medical care and its attendant unavoidable cost, nor does he discriminate in his thinking among the various items, from prescription counter to operating room, that enter into his medical bill. He seems to lose sight of the fact that he is getting a new kind of medical care, the best ever, and generally blames the high cost on the doctor.

As late as 1941 voluntary health insurance was comparatively unknown to the majority of American people; but, in the eighteen years that have followed, it has experienced a phenomenal growth, and there are many good reasons for this amazing development.

A major factor was the bitter lessons learned in the depression years of the thirties, and the determination of men and government to find practical ways to avoid another such period in the future—ways to avoid financial disaster to families resulting from prolonged unemployment, ways to protect families against the financial consequences of serious illnesses.

Employers in ever increasing numbers began to provide health insurance for their employees, or to make it available to them at small costs. Labor unions began to bargain for health insurance as a desirable fringe benefit. Some unions even provide such benefits through their own health and welfare programs.

The ever increasing complexities of medical care, oft times requiring the use of new and expensive drugs, the use of new and expensive equipment, the services of highly skilled professional specialists, and the greater use of costly hospital facilities were contributing influences also.

The impelling necessity of hospitals to secure the payment for their services, the desire of doctors to collect their fees, and their zealotry to help preserve the private practice of medicine have led both to encourage patients to buy health insurance.

All of these factors, as well as others, have served to help extend voluntary health insurance. And insurance companies, too, have been assiduous in serving the health insurance objectives of the public.

Today more than 123 million Americans have some kind of voluntary health insurance, which means that over 70% of the total U. S. civilian population is covered by voluntary health insurance. It has been estimated that more than \$3.4 billion of the nation's health bill was paid last year by voluntary health programs, with more than

\$2.6 billion of this being paid by insurance companies alone. While hospital expense insurance is carried by more people than any other form of medical expense coverage, an annually increasingly high percentage of physicians' services are also being financed through insurance arrangements.

During 1958, insurance companies paid more than a half billion dollars to policyholders for reimbursement for services of surgeons and physicians; \$402 million of this was for operations and fees of surgeons, and \$101 million was for regular medical care other than surgery.

In the latter part of 1957 the Health Insurance Council employed National Analysts, Inc., to conduct a nation-wide survey of the pattern of health insurance coverage. This study revealed that, of those having some form of health insurance, 66% were reported to have hospital expense insurance; 59%, surgical protection; 47%, coverage for ordinary medical expense; 18%, major medical expense protection; and 18%, loss of income policies.

One important revelation of this survey was the significant relationship between family income and health insurance coverage. Eighty per cent of the individuals from families with incomes of \$5,000 or more are protected. Coverage declines to 74% of individuals in the \$3,000-\$4,999 family income group, and to 33% in the under \$3,000 group—the group least able to pay for medical care in time of illness.

For some time, public interest in health insurance protection of people 65 years old and older has been gaining momentum. The 1957 survey also brought out that a total of 35% of the population 65-and-over had either individual or group insurance coverage. Considering the consistent advances insurance companies have been making in this field in recent years, it is estimated that more than 40% of our senior citizens are now protected by voluntary health insurance programs. And the number of persons 65-and-over obtaining health insurance coverage each year is increasing at a more rapid rate than is the number of persons attaining this age.

No reasonable, informed person would deny that the insurance companies and other associations have in recent years done a truly remarkable job, both quantitatively and qualitatively, in providing health insurance programs. The ever increasingly significant and vital role they have played in financing the cost of medical care has become an important segment in the entire American economy.

Despite this remarkable record of providing and financing health care, voluntary health insurance and the private practice of medicine are not without severe and formidable critics. We are in the



forefront on the programs of those who favor an increasingly collectivistic state.

Many of you will recall the Wagner-Murray-Dingell Bill introduced in Congress in 1948, which was to have provided a compulsory cradle-to-grave health plan. It was defeated, and the vigorous help of the leaders of your American Medical Association played no small part in helping to defeat it. Since then we have relaxed but the proponents of collectivism have been as constantly active as termites, relentless in their determination to accomplish their purposes, if need be one step at a time.

Every two years during the past decade, Congress has amended the Social Security Act. Benefits for total and permanent disability are now available to persons over 50, covered under the Act. This was purely an arbitrary limit and efforts are now being made to eliminate this qualification. More recent legislation has added benefits for dependents of beneficiaries.

The Veterans Administration program is now providing extensive medical care for non-service connected disabilities. A very significant step in the development of socialized medicine is the so-called "Medicare Program" whereby for the first time the Federal Government provides medical care for dependent members of the Armed Forces—persons who are not veterans, nor medically indigent, nor recipients of Social Security. At the moment this care is provided through civilian facilities; however, a bill has already been introduced in Congress to require beneficiaries of Medicare to receive this care only at establishments under Federal control and from doctors on the Federal payroll.

The Forand Bill, which had serious consideration at the last session of Congress but failed of enactment, is again receiving much attention from organized labor and many so-called liberal groups. It is high on their priority list and would extend the Social Security system further in the health insurance field by providing for the payment of hospital and nursing home benefits, and certain types of surgical and medical service, for beneficiaries of OASDI, at tremendous cost to the taxpayers. This is a very substantial and constantly growing part of the population.

It has been estimated that as early as 10 years ago the Federal Government provided 71% of all hospital beds. It is also estimated that 10% of all active physicians, 9% of dentists and 6% of graduate nurses are employed by the Federal Government.

Is it not obvious to you that this trend leads inevitably to socialization of insurance, as well.

If we are to stem this tide, together we must educate the people on the merits of the private

enterprise system and the fallacies of socialized medicine and compulsory health insurance. We must function as a partnership in the public interest and with the utmost of effectiveness.

Those of us engaged in the business of selling health insurance must sell more and better health insurance protection, and sell it at costs that the people can and will pay for, especially those in the lower income groups.

Every effort must be made to lower the cost to the lower income groups. In the case of group insurance, because the margins are so small, no substantial reduction in the premiums can be made unless ways can be found to reduce the claims through elimination of unnecessary hospitalization and medical care, and through lower charges by hospitals and physicians.

Despite the fact that future costs of health care will be complicated by the almost daily advances in medical science, with the development of new wonder drugs and new diagnostic and therapeutic methods, perhaps you will agree the major role in helping to keep medical care costs at a level the public can pay belongs to the doctors.

To be sure, the insurance companies must write contracts that will discourage extravagance, that will discourage the insured from seeking or his doctor from allowing treatment more than the insured's condition warrants. But it is the doctor who makes the diagnosis and determines the treatment to follow.

A large segment of the public, many politicians, and particularly the spokesmen for organized labor, are saying that insurance leads to over utilization, over-prescription and to excessive fees by physicians. The fee-for-service system is now, and will be increasingly in the future, under attack on the basis of over-use and excessive charges.

I did not accept the invitation of your President to appear before you for the purpose of indicting the Medical Profession. For emphasis, I repeat, we are partners in a struggle for the survival of the practice of medicine and the providing of health insurance under a free enterprise system. That struggle being in crisis, it seems to me complete candor in a spirit of warm friendliness is demanded, and should not be misunderstood.

It should be clear to you that health insurance creates no new wealth. It is but a pooling of funds deposited by the insureds to spread the financial burden when illness strikes one of them. The insurer is but the trustee and administrator of the insurance pool, charged with the duty of paying out the funds within the definitions of the contracts.

For a doctor to charge a higher fee for service because the patient has insurance, or to direct his



admission to the hospital unnecessarily, or to advise or permit confinement in a hospital for a period longer than his condition warrants because he is insured, unnecessarily and unconscionably increases the cost of health insurance, and is certain to provide appealing and politically effective argument for the advocates of socialized medicine; is certain to stimulate and foster "closed panel plans," which are an anathema of organized medicine.

May I remind you of the case history of the United Mine Workers Welfare and Retirement Fund which last year paid out more than \$58 million to hospitals and doctors. The Fund was established during the 1930's and until 1955 allowed its members free selection of doctors. But in that year began limiting the choice of physicians and hospitals by its beneficiaries to panels selected by the U. M. W., contending that it had to do so to stop abuses that were threatening to bankrupt the Fund.

It has been reported in the press that both the United Steel Workers and the United Auto Workers are thinking of scrapping their health insurance connections and setting up gigantic health ventures of their own, under plans similar to that of the United Mine Workers.

While the great majority of physicians do not over-prescribe, over-utilize, nor over-charge because of the existence of insurance, to be sure, unfortunately, however, the number who do so is far too great, and does represent a very real threat to the welfare of private medicine and voluntary health insurance. Every insurer could produce from its files hundreds of cases to document this statement.

While the instances of such abuses experienced in cases under major medical contracts are distressing enough, the more insidious and more serious situation exists under ordinary medical plans. When only a comparatively small increase over the customary charge is made, because the amounts are usually relatively small and do not justify the time or expense involved in protesting to the doctor, nor in appealing to your Grievance Committee, yet in aggregate they definitely increase the cost of health insurance and thereby greatly impair its value. The Commission of the American Medical Association on Medical Care Plans summarized the problem when it reported: "Physicians should be ever mindful of the moral responsibility for charging fees based upon the intrinsic value of services rendered, since the existence of insurance should alleviate the economic burden of the individual and should not result in an increase in the customary or reasonable charge."

On last December 10th, in New York City, in a symposium on "The Nation's Needs in Medical Economics" conducted before the Life Insurance Association of America, Dr. Gunnar Gundersen, President of your American Medical Association, said in part: "I believe it should be apparent to all physicians that medicine's most important challenge now and in the future is to adhere to the principle of charging for professional services on a basis that permits the insurance industry to sell insurance at a price that people can afford to pay. If this is not done, obviously the insurance industry cannot continue with forward-looking, creative planning in voluntary health coverage. And the end result would be the assumption by the Federal Government of the tasks now performed by the medicine-insurance partnership."

And again he said: "Meanwhile the profession and all its members must be vigilant to see that other factors do not help raise medical care costs. At least we must exercise as much control as possible over items we can directly influence. We must guard especially, for instance, against the abuses of over-prescription, over-utilization and over-charging simply because a patient happens to have insurance protection."

And again: "Now because physicians are acutely aware of the threat to private practice and to voluntary insurance implicit in rising medical care costs, the profession and the various medical societies have experimented with advisory fee lists to guide physicians as to the propriety of their charges. In addition to that, these lists are providing the insurer with the essential data that are basic to the design and underwriting of adequate, sound insurance. It's my personal belief that in the near future more county and state medical societies will experiment with some kind of fee schedules, professional service index or relative value schedules. Perhaps, through these experiments, we can do much to help stabilize health care costs.

"I want to assure you now, gentlemen, that I have urged and will continue to urge all physicians and all organized medical societies to go that second mile with the insurance industry in helping you to design and underwrite sound policies."

The American Medical Association, I am told, in its official efforts to assist voluntary health insurance underwriters to offer adequate, sound insurance and to help stabilize the cost of health care, has heretofore adopted a schedule of relative value fees. Certainly its President, Dr. Gundersen, has publicly urged county and state medical societies to experiment with some kind of schedules of that character.

Notably among those that have done so is the San Joaquin County Society of California, and the



record shows that 97% of the practicing physicians in that area participate in following their schedule.

What finer contribution could your Association make toward helping forestall the on-coming rush toward socialized medicine than to begin an experiment with some kind of relative value fee schedule or professional service index immediately?

It might well serve to help avoid the spread of panel practice such as is now followed by the United Mine Workers, and may soon be instigated by such tremendous nation-wide organizations as the United Auto Workers and the United Steel Workers which have extensive membership indeed in this state.

It might well help avoid an extension of government interference with the free practice of medicine. And it might help avoid the imposition of cost ceilings by some unsympathetic third party such as federal or state government, or organized labor, which would in all likelihood be less realistic and far less satisfactory to you than a schedule which the profession itself might devise.

Moreover, it would be of tremendous assistance to insurance underwriters in their efforts to make available thoroughly satisfactory voluntary health insurance at minimum costs.

There has long existed a mutual understanding and unity of purpose between leaders of organized medicine and insurance leaders at the national level. This fine relationship has existed at some state levels, but unhappily it has existed altogether too infrequently at the local levels, the grass-root levels, so to speak, where medicine and insurance live and work.

Altogether too often there has been an almost complete failure at the local level for hospitals, doctors and insurance people to recognize and understand the problems they have in common, consequently, a failure to cooperate in solving the problem so vital to our continued free existence.

Eleven years ago, with the encouragement of your profession, an important step was taken to remedy this unfortunate situation. For the purpose of working more closely with doctors and hospitals, so that health insurance might more effectively serve the public, the Health Insurance Council was formed. It is a federation of eight trade associations representing insurers that underwrite in excess of 90% of the health insurance carried by insurance companies.

It has made spectacular progress in its so-called "Operation Grass Roots" in that it has now established committees in every state and the District of Columbia, except Mississippi, Idaho, Utah and Alaska—and committees are in the process of formation in those states.

Nearly 500 people in insurance companies are now taking part in this concerted effort to meet doctors and hospital representatives on state and local levels to exchange information and to help in the solution of mutual problems of the providers of health care services and the insurers to serve the public interests more effectively.

The insurance companies, acting through these state committees, are eager to maintain a continuing contact with you doctors to gain a better appreciation of your problems and through joint study and effort do the things that will make voluntary health insurance a more thoroughly satisfactory device for financing the costs your patients incur when they are ill.

The Health Insurance Council has undertaken two broad programs intended to abate some of the problems that the vast growth of health insurance has created for the doctors and hospitals.

The first of these is a program to achieve simplification and standardization of claim forms. As the number of your patients having the benefit of health insurance increases, your load of paper work in connection with their claims becomes increasingly burdensome. To reduce that burden and still secure the data essential for payment of benefits, the Health Insurance Council has devised and adopted simplified uniform claim blanks. These blanks have received the endorsement of the American Medical Association, the American Hospital Association, and of many state medical associations. Moreover, insurers underwriting 80% of the group insurance and a majority of the individual coverage are now using them. It is hoped you will find that these forms both ease and reduce your paper work.

It would be helpful if your Association would also endorse these uniform claim forms, and disseminate information to your membership and to the insurance organizations that you have done so.

The second program is an effort to ease hospitals' admission and credit burdens. It is attempting to bring into universal use a system by which prior certification by the employer, or the insurer or its agent, the hospital is fully informed as to the amount of insurance benefits to which the patient may be entitled, thereby eliminating the necessity for an advance payment and facilitate the admission procedure.

The Medical Association of the State of Alabama has a standing Committee on Insurance, I believe. The Health Insurance Council, too, has a state committee in Alabama composed of well informed, competent insurance men, under the able leadership of Mr. John Galloway, which stands ready and is eager to meet with any group from your profession to exchange information, to discuss and



help solve problems common to the medical profession and health insurance underwriters, for the purpose of enabling both to serve the public better and thereby help perpetuate the private enterprise system that is so essential to both.

By way of concluding these remarks, I should like to quote from an article that appeared in the American Medical Association News, written by Dr. Leonard W. Larsen, Chairman of the AMA Board of Trustees, in which he wrote: "Because the problems of the medical profession with which the public is most concerned are economic, private

medicine may well stand or fall depending on the success of voluntary health insurance. . . . Without private medicine, there would be no need for voluntary health insurance; and without voluntary health insurance in today's interdependent society, there could be no private medical practice. Because we are convinced that the American people can get the best health care only if medicine is a free and private profession, it behooves every thoughtful, ethical physician to support and encourage the further rapid expansion and improvement of voluntary health insurance of all kinds."

## THE DIAGNOSTIC VALUE OF INTRAVENOUS CHOLANGIOGRAPHY IN BILIARY TRACT DISORDERS AND ACUTE ABDOMINAL CONDITIONS

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The introduction of cholecystography by Graham and Cole<sup>1</sup> lead to one of the most significant advances of modern medicine. In present day medical practice this method has become so firmly established that few physicians would attempt to diagnose gallbladder disease without recourse to this radiologic procedure. From the very beginning, the need was often felt to extend contrast visualization of the gallbladder to that of the hepatic and common duct system. By certain modifications of oral cholecystography, this is indeed feasible. However, in the presence of a non-functioning gallbladder, visualization of the bile ducts is usually unsatisfactory, both from the standpoint of radiologic quality and regularity.

Further progress in the diagnosis of biliary tract disorders was made in 1953 by the introduction of intravenous cholangiography which became possible by the development of a new contrast agent, iodipamide, commonly known as Cholografin.<sup>2</sup> This contrast medium intravenously administered is excreted by the liver in sufficiently high concentration to render the intra- and extrahepatic biliary ducts radiopaque. Soon after the introduction of intravenous cholangiography it was postulated and subsequently confirmed that this method would afford a better and more regular visualiza-

tion of the hepatic and common duct systems than previously obtained by cholecystography.

Though intravenous cholangiography has found widespread application to the diagnosis of a large variety of biliary tract disorders, its indications and limitations remain often poorly defined. For this reason it appears desirable to attempt a brief appraisal of the diagnostic usefulness of this method. Admittedly there are still many unknown factors in the mode of excretion of this contrast agent. Nevertheless, a large body of information has now accumulated. Data of this type, as well as experience in our own institution, shall be the basis of this presentation.

For the purpose of discussion, the diagnostic value of intravenous cholangiography shall be assessed in the following order:

(1) Application of intravenous cholangiography to the routine study of biliary tract disorders.

(2) Intravenous cholangiography in the evaluation of the postcholecystectomy patient.

(3) The use of intravenous cholangiography in the diagnosis of acute cholecystitis, a field which has been of particular interest to our department at Emory University.

### APPLICATION OF INTRAVENOUS CHOLANGIOGRAPHY TO THE ROUTINE STUDY OF BILIARY TRACT DISORDERS

Oral cholecystography is a well accepted and thoroughly proved diagnostic method in the study of gallbladder disease. There has been much progress in the design of oral contrast media which make it possible to perform this procedure with a minimum of undesirable side reactions. The safety and diagnostic accuracy of cholecystography has been well documented. Within certain limitations both cholecystography and intravenous

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From the Departments of Radiology, Grady Memorial Hospital and Emory University School of Medicine.

1. Graham, E. A., and Cole, W. H.: Roentgenologic examination of gallbladder, J. A. M. A. 82: 613, 1924.

2. Langecker, H.; Harwart, A., and Junkmann, K.: 2, 4, 6-Trijod-3-acetaminobenzoesaure-Abkommlinge als Kontrastmittel. Arch. f. exper. Path. u. Pharmakol. 220: 195, 1953.



cholangiography depend upon a satisfactory excretory mechanism of the liver, though the level of liver function required for successful performance of the two methods may differ. There are, however, certain fundamental differences between oral cholecystography and intravenous cholangiography. In conventional oral cholecystography the contrast medium is concentrated by the gallbladder mucosa and visualization of the gallbladder depends largely upon this concentrating ability. With intravenous cholangiography gallbladder opacification occurs passively as the liver bile is already radiopaque as it enters the gallbladder. This certainly applies to the first few hours following injection of the intravenous compound, though thereafter the action of the gallbladder mucosa contributes to further intensification of the gallbladder shadow.

Experience has shown that in many instances in which the gallbladder fails to opacify on oral cholecystography visualization may still succeed on intravenous cholangiography. Depending upon the type of biliary disorder under study, this may occur in one-third to one-half of all individuals with non-filling of the gallbladder on cholecystography.<sup>3,4</sup> For instance, Hardie<sup>5</sup> examined 58 patients with intravenous cholangiography following unsuccessful cholecystography. In 27 of these patients the gallbladder filled on intravenous cholangiography and in 20 cases stones could be demonstrated.

From our observations we feel strongly that cholecystography should remain our basic method of examination in gallbladder disease as it is a simple and safe procedure. It should be supplemented, however, by intravenous cholangiography in those instances in which the gallbladder fails to opacify. There is sufficient evidence that in this manner the positive diagnosis of biliary tract stones will become more precise.

There are many patients in whom special attention to the appearance of the biliary duct system is required. Contrast visualization of the bile ducts obtained on intravenous cholangiography is from the radiologic viewpoint inferior to that of operative or T tube cholangiography. Neverthe-

less, there are many instances in which intravenous cholangiography will uncover stone formation in the duct system prior to operative procedures.

Duct visualization is often interfered with by overlying gas shadows or intestinal contents and tomography has therefore been widely applied to this examination. It has been shown that in clinical practice tomography of the bile ducts is a valuable adjunct procedure as it will be useful in about one-third of all examinations.<sup>6</sup>

#### INTRA VENOUS CHOLANGIOGRAPHY IN THE STUDY OF THE POSTCHOLECYSTECTOMY PATIENT

In 20 to 40 per cent of patients following cholecystectomy upper abdominal symptoms of various types and degree persist, recur or develop.<sup>7</sup> This group of symptoms has been collectively described as the postcholecystectomy syndrome but has also been recorded under such terms as cystic stump dilatation and inflammation, re-formed gallbladder, cystic duct lithiasis and biliary dyskinesia. This syndrome of discomfort and pain has also been attributed to associated hepatitis, cholangitis and pancreatitis, as well as to pathologic changes of the cystic duct and sphincter of Oddi. Some of these pathophysiologic mechanisms are still poorly understood and subject to controversy as far as correlation with clinical symptoms is concerned.

Intravenous cholangiography has made significant contributions to the clinical evaluation of the postcholecystectomy patient as it has permitted visualization of the bile ducts heretofore not afforded. There remain many divergent opinions concerning the size of the normal common duct in the non-cholecystectomy patient. Studies on normal individuals in our own department revealed diameters from two to seven millimeters, the cross section of the common duct becoming larger with advancing age.<sup>8</sup> In the postcholecystectomy patient dilatation of the common duct may take place. Wise and his associates<sup>3</sup> noted dilatation of the common duct up to 15 mm. in asymptomatic cholecystectomy patients. Dilatation exceeding this value proved to be indicative of obstruction.

In addition to morphologic observations, certain functional abnormalities may be utilized in the detection of bile duct disorders. Normally in the postcholecystectomy patient the common bile duct will attain maximum opacification in from 20 to

3. Wise, R. E.; Johnston, D. O., and Salzman, F. A.: Intravenous cholangiographic diagnosis of partial obstruction of common bile duct, *Radiology* 68: 507, 1957.

4. Kremens, V.; Berger, S. M., and Cohn, E. M.: Comparison of rapid intravenously and orally administered contrast mediums for routine gall-bladder study, *New England J. Med.* 254: 705, 1956.

5. Hardie, R. W. W., and Israelski, M.: Intravenous cholangio-cholecystography with "Biligradin." Its value as compared with oral contrast method, *Brit. M. J.* 2: 779, 1956.

6. Cabanis, H. W.: Die Indikationen fuer Tomographie in Cholangiographie. *Fortschr. a. d. Geb. d. Roentgenstr.* 87: 465, 1957.

7. Feldman, M.: The postcholecystectomy syndrome, with special reference to the cystic duct remnant, *Gastroenterology* 34: 239, 1958.

8. Weens, H. S.; Meadors, J. L., and Reid, W. A.: Intravenous Cholangiography, *J. M. A. Georgia* 44: 391, 1955.



40 minutes following injection of the intravenous contrast medium. Thereafter the density of the bile duct will gradually diminish. Prolonged opacification of the bile ducts may be considered as evidence of an obstructive process in the post-cholecystectomy patient.<sup>3</sup>

Many pharmacodynamic tests have been applied to the study of biliary duct disorders in the post-cholecystectomy patient but cannot be regarded as well established at the present time.

Other observations of importance in the post-cholecystectomy patient are the demonstration of biliary calculi as well as strictures and deformities of the duct system. Calculi should be sought for not only in the common duct but also in the hepatic duct and remnants of the cystic duct. It is presently not firmly established whether dilatation of the cystic duct remnant or so-called re-formed gallbladder per se can be recognized as cause of pain syndromes in patients following cholecystectomy.

#### INTRA VENOUS CHOLANGIOGRAPHY IN THE DIAGNOSIS OF ACUTE CHOLECYSTITIS

Of considerable interest to our department has been the application of intravenous cholangiography to the study of acute cholecystitis and its differentiation from other acute abdominal disorders. For several years now intravenous cholangiography has been performed in our department in an unselected group of patients with acute cholecystitis and acute pancreatitis. In addition to this group of patients, there were many individuals examined who subsequently proved to suffer from other acute illnesses such as peptic ulcer, pneumonia and dissecting aneurysm.

A detailed analysis of intravenous cholangiography in the study of acute abdominal disorders emphasizing some of its pitfalls and limitations has been presented elsewhere.<sup>9</sup> Only the salient features of our findings will be presented here.

The large majority of our patients were examined during the first three days of their acute illness and many of the patients were referred directly from the Emergency Clinic to the Department of Radiology. The procedure was carried out in the usual manner with follow-up roentgenograms taken for a period of up to two hours. More recently, in selected cases, examination up to four hours following injection of the contrast medium has been employed.

In the acutely ill patient the differential diagnosis between cholecystitis and pancreatitis is often most difficult. This differentiation of acute cholecystitis from acute pancreatitis is, however,

not an academic problem. The two clinical entities may be indistinguishable from each other, even if well accepted laboratory tests, such as the serum amylases determination, are performed. It is exceedingly important to recognize acute cholecystitis as early surgical exploration is often carried out in these patients. On the other hand, conservative therapy in acute pancreatitis is known to lead to lower mortality and morbidity rates.

In the large majority of patients with acute cholecystitis, obstruction of the cystic duct is the causative pathologic mechanism. Demonstration of cystic duct obstruction was therefore the objective of our diagnostic investigation in this group of patients. On intravenous cholangiography four distinct patterns were recognized.

#### PATTERN I. OPACIFICATION OF THE BILIARY DUCTS WITHOUT ENSUING GALLBLADDER OPACIFICATION

In our studies on acutely ill patients this pattern proved to be specific for acute cholecystitis or acute cystic duct obstruction. It could be demonstrated in nearly half of our patients with acute cholecystitis. So far we have not observed this excretion pattern in any other acute abdominal entity. Conceivably we will encounter in the future patients with chronic cystic duct obstruction (not associated with acute gallbladder disease) who may demonstrate this pattern in the presence of other acute abdominal illnesses. We believe, however, that such an event should occur only very rarely.

#### PATTERN II. OPACIFICATION OF THE GALLBLADDER AND BILIARY DUCTS

This pattern precluded in our series the presence of cholecystitis as it ruled out the presence of cystic duct obstruction. Pattern I was also observed in 65 per cent of patients with pancreatitis. This high incidence of gallbladder opacification in patients with acute pancreatitis is clinically exceedingly valuable. Patients with acute pancreatitis are difficult to differentiate from those with acute cholecystitis which may lead not uncommonly to unnecessary surgical exploration. Oral cholecystography is generally an unsatisfactory diagnostic procedure in these patients as the contrast medium is poorly accepted by the acutely sick.

#### PATTERN III. GALLBLADDER OPACIFICATION WITHOUT DUCT VISUALIZATION

This pattern is very rarely encountered. We believe that in this instance, because of impaired hepatic function, the bile in the duct system does not contain sufficient contrast agent to render it radiopaque. Nevertheless the gallbladder, especially if examined after four hours, appears opaque due to its ability to concentrate the contrast medium. Pattern III has the same significance as Pattern II. It rules out cystic duct obstruction.

9. Johnson, H. C., Jr.; Minor, B. D.; Thompson, J. A., and Weens, H. S.: Diagnostic value of intravenous cholangiography during acute cholecystitis and acute pancreatitis, New England J. Med. 260: 158, 1959.



# PATTERN IV. ABSENT OPACIFICATION OF BOTH THE GALLBLADDER AND BILIARY DUCT SYSTEM

This pattern was observed in slightly less than half of all patients studied. It should be interpreted as non-contributory to the diagnosis and is presumably the result of temporary or permanent

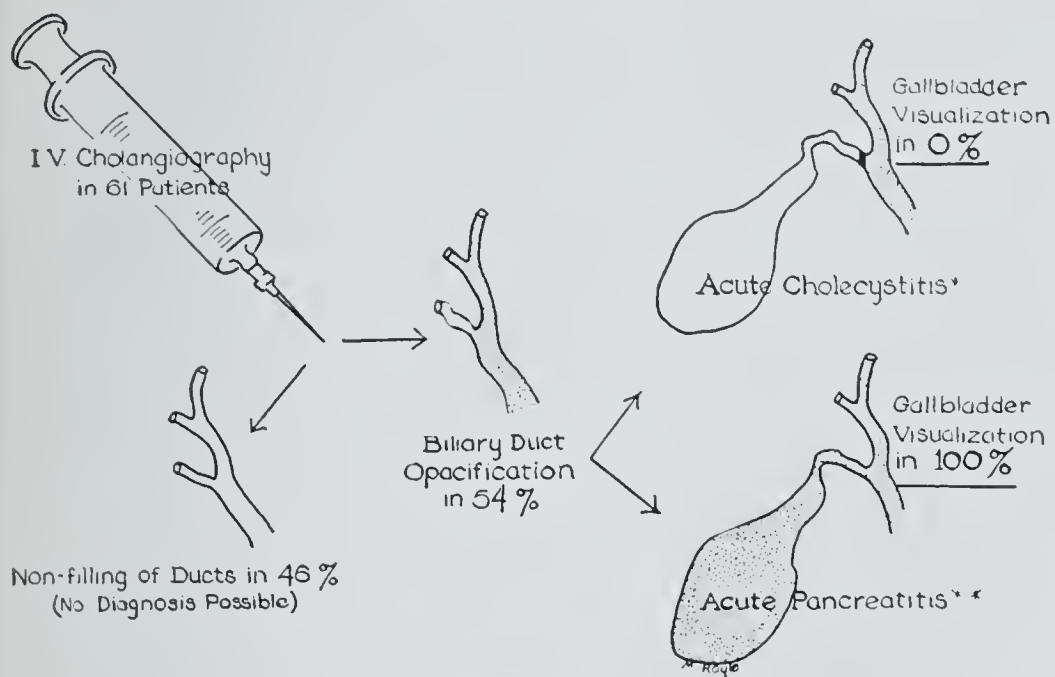


Figure 1

suppression of hepatic function. In Figure 1 our findings are diagrammatically presented.

In the practice of our hospital, intravenous cholangiography in the diagnosis of acute cholecystitis has found an increasing number of grateful supporters. On many occasions the procedure proved to be decisive in the management of the patient and on repeated occasions surgical errors could be prevented. For this reason intravenous cholangiography is now almost routinely employed in all patients suspected of having acute cholecystitis. In this manner intravenous cholangiography has made an important contribution to the differential diagnosis of acute upper abdominal illnesses.

## SUMMARY AND CONCLUSIONS

Intravenous cholangiography has greatly improved our accuracy in the diagnosis of chronic and acute biliary disorders. In chronic gallbladder disease, intravenous cholangiography has made it possible to positively identify cholelithiasis in an increasing number of patients. At the same time, stone formation in the bile duct system has been recognized with greater frequency.

Intravenous cholangiography has made important contributions to the study of the postcholecystectomy patient providing information concerning morphologic and functional changes of the bile duct system follow operation.

Finally, intravenous cholangiography has made the diagnosis of acute cholecystitis more precise and aided in its differentiation from other acute abdominal disorders.

The method has certain well defined limitations with which the examining clinician must be fully acquainted. At the same time, intravenous cholangiography offers many diagnostic possibilities which are often not utilized to fullest extent.

**Zoonoses**—The average American is estimated to consume 3 servings of infected pork a year, according to a leading medical publication.

Thus trichinosis, a disease due to infestation of pork by trichinae, becomes a major public health problem. There is no specific treatment but the disease can be prevented simply by cooking pork at 140 degrees F. at least 30 minutes per pound.

This is just one facet of what the medical profession calls zoonoses—diseases of the lower animals transmissible to man. Zoonoses is the subject of the latest issue of *Patterns of Disease*, published by Parke, Davis & Company for the medical profession.

*Patterns* reports there are 87 zoonoses. Of these, 49 are known to occur in the southern United States, and 46 in the state of Texas alone.

The publication focuses primarily on new medical information available on zoonoses. Rabies virus, for instance, was isolated from bats for the first time in 1953 in Florida. Since then, more than 175 cases have been reported from 19 widely scattered states. Other animals which serve as "reservoirs of rabies infection" include the dog, fox, cat, wolf and skunk, *Patterns* reports. The greatest danger here is for children. Those under 15 accounted for more than 50% of all human rabies deaths between 1944 and 1954.

Parrot fever (psittacosis) has been found to be caused, in part, by a "new health hazard—the turkey," *Patterns* continues. Parrots and parakeets are probably the most common source of this disease among humans, but infections have also been traced to pigeons, ducks, chickens, turkeys, canaries, sea gulls, egrets and "road runners." In Texas in the year 1954 there were 201 cases of psittacosis with 190 cases attributed to the dressing of turkeys, *Patterns* reports. In Wisconsin there were 22 cases at a single turkey-processing plant in 1956.

Another of the zoonoses, undulant fever (brucellosis), has been found—contrary to popular belief—to be "not just a rural problem," *Patterns* notes. A total of 41% of reported cases in one comprehensive study was in urban areas. Incidence of this disease is higher among veterinarians than among any other occupational group—about 283 per 100,000 practitioners. Farmers account for 36% of undulant fever cases; packing plant workers, 27%; housewives, 11%; students and children, 8%; veterinarians, 6%; and all others, 11%.

The Cooperative State-Federal Brucellosis Program has brought about a drop in the incidence of the disease among cattle from about 10% in 1935 to less than 2% in 1957. Since 1940 the human case rate for undulant fever in those areas certified as brucellosis-free has been one third the rate in noncertified areas.

In the case of murine typhus, a disease transmitted from rats to man by the bite of rat fleas, the impact of the DDT Typhus Control Program has been "striking," *Patterns* reports. In 1944, just before the program began, there were 5,401 reported cases. This was reduced to 113 cases by 1957, the last year for which figures are available.

Several of the diseases transmitted from animals to man follow marked seasonal patterns, the publication reports. Undulant fever and Rocky Mountain spotted fever occur predominantly in spring and summer.



## PRURITUS VULVAE

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Pruritus vulvae is one of the most common and neglected symptoms in medicine. Wharton<sup>1</sup> states that "Pruritus is one of the commonest complaints of men and women." As a result of the frequency of this complaint, examination is often cursory and thus the patient with more serious pathology is often neglected. This situation is probably one of the main reasons for the delay between onset of symptoms and institution of therapy in malignancy. Hawson and Montgomery<sup>2</sup> have found that this delay is longer for carcinoma of the vulva than it is for any other primary malignancy in the genital canal, namely, 17 months. These statistics are particularly damning in face of the fact that this area is easily studied and biopsied.

Although it is often baffling and intractable, recognition of the numerous irritants to which the area is exposed, and knowledge of the tissue involved, will reduce the number of idiopathic cases. Since the area is kept constantly moist by normal secretions and excretions, it is common for the tissue to become macerated. To add to the problem, tight fitting clothing often produces chafing, especially when special protection is necessary at the time of menses. To these and other irritants must be added a certain amount of change related to hormonal activity. Vaginal secretions from sensitive prepubertal and postmenopausal vaginal mucosa, growth of hair and deposit of fat at puberty, and cyclic secretion of the specialized apocrine glands may play roles in some of the more non-specific conditions. It is small wonder, in view of the above "normal" factors, that itching occurs commonly in the vulvar and perineal areas in the absence of any specific pathology.

### IDIOPATHIC

Many of the cases of idiopathic pruritus or those situations of unknown origin may be related to one or another of the above mentioned routinely present irritants. In other cases, a psychologic cause is invoked as the origin of the condition. How commonly the latter exists is a very difficult question to answer. Often by the time the physi-

cian sees the patient she has become a nervous wreck, either because of the pruritus or because of some situation which produced the pruritus. As to the lesion itself, it is difficult to say whether an actual lesion existed at the onset of the symptomatology since the whole vulva may be an excoriated, erythematous mass of edematous tissue. Immediate measures must be taken to alleviate the situation. Phenobarbital is a great adjunct to any local therapy and will often give the patient some rest at least. Antihistamines also provide relief, especially when added to local cortisone therapy. Common antipruritic ointments may be used in place of cortisone preparations, carbonis detergens with 1% phenol being a favorite. Anhydrous lanolin with 1 to 2% phenol is also often soothing. If the edema is great, 25% Burrow's solution on wads of cotton between the lips of the labia is useful. After the subsiding of the initial reaction, the patient may have persistent or recurrent bouts of pruritus. In these cases, if local and systemic therapy fails, nerve block by alcohol injection may be tried.

### DERMATOLOGIC DISEASE

In spite of the apparent frequency of the so-called idiopathic pruritus, the area is subjected to a variety of dermatologic diseases, some of which are almost exclusively recognized on the vulva. Among the most common lesions is intertrigo. The persistent moisture, the folds of tissue in almost constant apposition, and the tight fitting clothing to enhance the irritation associated with persistent activity add up to an ideal situation for the development of pruritus. In the chronic phase of this dermatitis, the reddened, moist, macerated fissures, usually noted in the creases of the thighs and outer folds of the labia, begin to show thickening and hyperkeratosis along the edges. Not too uncommonly a diagnosis of leukoplakia is made under these circumstances, although this condition bears no relationship to the true premalignant disease. Of major importance in the treatment of intertrigo is the use of drying powder and light, loose cotton under clothing. Since the patients are frequently obese, diet is an important adjunct to any local therapy.

Of the many other skin diseases which potentially may affect the vulva, allergic dermatitis has become more prevalent in the past decade. This is related largely to the increase in use of more plastics in clothing and a variety of new medications, particularly the antibiotics. Reactions to the latter may be related to sensitivity or to the elimination of normal organisms by the medica-

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1. Wharton, L. R.: Gynecology, Including Female Urology. W. B. Saunders Co., Philadelphia, 1943.

2. Hawson, J. V., and Montgomery, T. L.: Delay Period in Diagnosis of Genital Cancer, *Am. J. Obst. and Gynec.* 43: 1016, 1942.



tion so that fungi and trichomonads are allowed to multiply with the resultant local infection. To these recent additions to the list of allergens, there are the more common offenders such as powders, deodorants, nail polish, and a variety of other materials which may come in contact with the vulvar skin. Reactions to food with urticaria are of course well known and may affect the external genitalia. However, generally speaking, these hypersensitivities are reflected in a more generalized eruption. Although the lesion may have been specific at the time of origin, either in the form of small vesicles with surrounding erythema or urticarial rash, often the scratching has eliminated most of the identifying features and a series of linear excoriations with superficial ulcerations make up the resultant dermatitis. Therefore much of the diagnosis depends on history and careful survey of the rest of the body. These lesions respond to the antihistamines and local cortisone ointment. If trichomonas or fungus infection does play a part, it must, of course, be treated specifically.

#### VAGINAL INFECTION

Not uncommonly, pruritus vulvae is secondary to vaginal discharge, and investigation and therapy limited to the external genitalia alone will not answer these problems. In children vaginal weeping is usually related to irritations of the thin, sensitive vaginal epithelium. Twenty-five years ago gonococcal vulvovaginitis was a common affliction in the dispensary, and was a chronic unsolved problem until Lewis<sup>3</sup> recognized the relation of this disease to the physiology of the genital canal. With this recognition and the subsequent therapy by use of estrogens, first systemically and then locally,<sup>4</sup> the problem of the treatment for gonococcal vulvovaginitis was eliminated. Of course today the antibiotics have largely superseded estrogens as the treatment of choice for gonococcal infections. However, the principle is still much in vogue. For the occasional non-specific vaginitis in the prepubertal child and for the rather common postmenopausal vaginitis, local estrogens are still the treatment of choice. Several creams and suppositories are now produced for intravaginal use, and treatment for 2 to 3 weeks affords great relief. It must be emphasized that thorough examination must precede the institution of therapy. Occasionally in the child a foreign body in the vagina or a rare tumor of the region can produce a watery irritating discharge, and commonly in the postmenopausal patient, carcinoma of the uterus may be heralded by such a local irritation.

3. Lewis, R. M.: *Am. J. Obst. and Gynec.* 26: 593, 1933.

4. Woodruff, J. D., and TeLinde, R. W.: *Treatment of Gonococcal Vaginitis in Children with Diethylstilbestrol*, *South. M. J.* 35: 389, 1942.

In the adult menstruating woman, these vaginal infections are more specific, but the focus of attention for the patient is frequently still the vulva. It is not too uncommon to see the vulva so erythematous and edematous that the patient is almost unable to walk or sit with any comfort. These reactions are most frequently the results of trichomonas and fungus infestations of the vaginal canal. The actual mode of entry of these organisms into the vagina is not specifically known. It is recognized, however, that the trichomonas frequently is found in the vagina in the absence of any evidence of irritation, and by the same token there are unquestioned non-pathogenic fungi. Although pathogenic strains of fungi are recognized, and varieties of trichomonads which can be differentiated by their growth characteristics have been isolated, there are still factors of these infestations, particularly of the trichomonas-associated vaginitis, about which little is known. It has been noted that with many of these infections the pH of vaginal secretion has increased well above the normal 4.5 to 5.0. By the same token a majority of the cases can be treated, at least symptomatically, by reestablishing this normal acidity. The methodology varies greatly from the use of acid douches to the actual introduction of acidifying materials, such as B. lactose or compressed lactic acid producing organisms, into the vagina. Today attention has turned to a variety of trichomonocidal agents. There are sufficient numbers on the market or being given therapeutic trials to allow each of us to use a different agent. No specific product will be recommended. However, two facts should be emphasized. Foci of infection should be investigated, both those in patient and in spouse. Trichomonads may be found in the routine vaginal smear when there is no evidence of infection. It is apparent that these organisms are harbored in the endocervical glands, as well as possibly Skene's and Bartholin's glands. Cauterization of the endocervix or Skene's glands may eliminate the common recurrences. The husband may also be a focus, usually from the prostate, although there are no clinical symptoms. Consequently, protection is necessary during the period of active therapy and some attempt at treatment of the male, poor though it may be, should be instituted. Finally, it is important to continue treatment persistently for a minimum of 3 weeks, and then pre- and postmenstrually for at least 3 months. Even with this thorough regimen, recurrences must be expected and then therapy may be changed.

Pruritus may be the first symptom of a systemic disease. The commonest of these is diabetes. The vulva presents a very specific picture in the acute phase. The labia minora and majora are fiery red, the edges of the area being usually very well demarcated. In the chronic phase the tissue may



become rather grayish red and appear almost like the atrophic changes so commonly seen in the postmenopausal patient except that the tissue is not atrophic but rather slightly edematous with normal architecture. Itching may also be associated with hepatitis, certain endocrine abnormalities such as hyperthyroidism and pituitary cachexia, and local manifestations of lymphoma. These latter are all relatively rare, whereas diabetic vulvitis is common. It must be remembered that fungus infections are frequently associated with diabetes and must be treated along with the diabetes to obtain the best results.

#### OTHER INFECTIONS

There are certain specific infections of the vulva which do not usually produce itching as a primary complaint, but which may become persistently irritating in their chronic phases. Although chancroid and syphilis most commonly are indigenous to the perineal area, the primary lesions leave little local evidence of their presence. Such is not the case in granuloma and lymphogranuloma inguinale. Both of these lesions frequently produce distortion of the external genitalia with resultant pruritus. Of even more importance is the fact that these chronic irritative lesions may lead to carcinoma. In ten of fifty cancers of the vulva seen at The Johns Hopkins Hospital in twenty years, five were preceded by granuloma inguinale and five by lymphogranulomatous<sup>5</sup> disease. Furthermore, it is almost impossible to distinguish the benign lesion from its malignant counterpart, and only by biopsy of these persistent chronic conditions may the diagnosis be established. Finally, condylomata acuminata, warty lesions of the vulva of virus origin, are pruritic and the patient is often unaware of the presence of the lesion until she begins to scratch from its irritation. Although podophyllin usually causes disappearance of the lesions, it is not the panacea in all cases. It is important to follow these cases since, on occasion, these tumors may eventuate in carcinoma. Although this outcome is rare in this country where the patient, if not the doctor, is anxious to be rid of her problem, the same is not true elsewhere. Clarkwood and Shippel<sup>6</sup> report eight of twelve cases of carcinoma of the vulva in South Africa as having arisen in condylomatous lesions.

#### LEUKOPLAKIA

One of the most perplexing and confused subjects in gynecology is that of leukoplakia of the vulva. A majority of the lesions on the vulva

which appear white have been called leukoplakia at one time or another. The principal problem hinges around the malignant potential of these lesions. If a condition precedes cancer in a tangible percentage of the cases, it is then of major importance to eliminate the lesion. The converse of this statement is obviously true. It is apparent that all whitish lesions of the external genitalia are not premalignant. However, it is true that the hypertrophic, overactive lesion known as true "leukoplakia" does precede carcinoma in possibly ten or more percent of the cases. The more common picture on the vulva is that of atrophy, called atrophic leukoplakia by Taussig<sup>7</sup> and lichen sclerosis et atrophicus by the dermatologist. Minor degrees of this change are frequently seen in the postmenopausal patient. As a result of the frequency of these minor changes, the statement has been made that this atrophic condition, which also produces white, hyperkeratotic areas on the vulva, is never followed by the development of malignancy. Nothing could be farther from the truth, for although the malignant potential is low in comparison with that of the true hypertrophic variety, if the itching persists with the concomitant excoriation, malignancy will develop in an occasional case. It therefore behooves the physician to examine carefully the itching lesion regardless of its apparent innocence and if there is an elevated thick whitish patch this should be biopsied. If no such specific lesion is noted, it is still imperative that everything be done that is possible to alleviate the symptom and that follow-up of these lesions be strongly advocated.

#### MALIGNANCY

Finally, the true malignancy of the vulva is a pruritic lesion. In more than 90% of the cases, itching and irritation are the presenting complaints. As noted previously, the commonplace nature of this symptom is undoubtedly the reason for the delay in making specific diagnoses and instituting treatment in this variety of pelvic malignancy. Although carcinoma of the vulva makes up only about 4% of the primary malignancies of the genital canal, nevertheless, recognizing that it occurs commonly in the elderly patient, and that surgery, the only adequate type of therapy, is rather extensive, the physician should make every effort to study pruritic lesions of the vulva thoroughly. The simplicity and success of the local surgical therapy for pre-invasive lesions are evidenced by the followup of fourteen such cases without recurrence to date.<sup>8</sup>

5. Salzstein, S. L.; Woodruff, J. D., and Novak, E. R.: Postgranulomatous Carcinoma of the Vulva, *Obst. and Gynec.* 7: 80, 1956.

6. Clarkwood, G. P., and Shippel, S. S.: Benign Papilloma of the Vulva Changing into Malignant, *South African M. J.* 27, 149, 1953.

7. Taussig, F. J.: Leukoplakic Vulvitis and Cancer of the Vulva, *Am. J. Obst. and Gynec.* 18: 472, 1929.

8. Woodruff, J. D., and Hildebrandt, E. E.: Carcinoma in Situ of the Vulva, *Obst. and Gynec.* 12: 414, 1958.



CONCLUSIONS

In conclusion I would like to stress two points:

1. Any lesion which is persistently pruritic should be treated vigorously toward the elimination of the lesion and symptom. It seems quite possible that any lesion, if irritative for a long

enough period of time, might eventuate in cancer.

2. Any specific lesion should be studied thoroughly and biopsied if any suspicious areas, such as ulcerations that do not heal, persistent condylomata, or elevated white spots, exist.

DIAGNOSIS AND TREATMENT OF MANDIBULAR JOINT REACTIONS

JAMES B. COSTEN, M. D.

St. Louis, Mo.

Identification of the mandibular joint syndrome<sup>1</sup> as a symptom complex involved sorting out its qualities from the maze of known reactions of fifth nerve pain.

This search began when enormous interest in otolaryngology was centered about the sphenoidal sinus and its problems. Similarity in distribution of ear and vertex pain directed attention to the temporomandibular joint.

The otolaryngologist, once interested, found many such cases because of the location of symptoms. The neurosurgeon welcomed proof of such a secondary neuralgia to explain the origin of pain reactions which were clearly not tic douloureux.

The sphenoidal sinus has not been declassified as unimportant. Its position of interest was simply scaled down to a secondary place by increased knowledge of allergy, nasal physiology and antibiotics.

Otalgia, vertex pain, glossodynia,<sup>2</sup> and varieties of trismus<sup>3</sup> which activate the mechanism are clearly established in diagnosis of the symptom complex.

A majority of dental groups showed marked enthusiasm for this syndrome, some parts of which have appeared years ago in the dental literature. It

From the Department of Otolaryngology, Washington University School of Medicine and the Oscar Johnson Institute.

This work was supported entirely by the John S. Swift Fund.

Read before the Alabama Academy of Ophthalmology and Otolaryngology, February 13, 1959, Point Clear, Alabama.

1. Costen, James B.: A syndrome of ear and sinus symptoms dependent upon disturbed function of the temporomandibular joint, *Ann. Otol., Rhin. & Laryng.* 43: 1-15 (March) 1934.

2. Costen, James B.: Glossodynia: Reflex irritation from the mandibular joint as the principal etiologic factor, *Arch. Otolaryng.* 22: 554-564 (November) 1935.

3. Costen, James B.: The mechanism of trismus and its occurrence in mandibular joint dysfunction, *Ann. Otol., Rhin. & Laryng.* 48: 499-514 (June) 1939.

was refused by others because of disagreement with the anatomical reasoning, or because of misunderstanding of the purport and meaning of the study.

There is general acceptance, however, of the origins of painful reflexes as follows: 1. Abnormal condyle movement producing sensory irritation of branches of the auriculotemporal nerve which distribute to the capsule of the joint; 2. Direct trauma to the chorda tympani<sup>4</sup> nerve which passes along the medial wall of the glenoid fossa; and 3. Direct trauma to the retrocondylar pad,<sup>5</sup> known to contain sensory elements. In addition to pain in these distributions, reflex pain occurs in the lingual nerve with typical glossodynia. Once pain is initiated, reflex contraction of the masseter group of muscles perpetuated the trismus cycle by producing further impingement. Much confusion could be avoided in correct evaluation of cases suspected of mandibular joint involvement if the following simple classification were kept in mind. The groups overlap in many cases.

The commonest source of diagnostic error is a hidden cause of sensory stimulation which is unrecognized; or a conversion neurosis case who clings to the original symptoms, refusing to admit improvement after treatment, dental or direct, has been applied. The common error is to repeat treatment on the basis of positive local findings when no improvement has been gained.

CLASS I

Temporary, with otalgia and trismus effects, simple origin:

- ulcerated teeth
- excessive yawn and condyle subluxation
- stretch of jaws under anesthesia
- blow on chin

4. Costen, James B.; Clare, M. H., and Bishop, G. H.: The transmission of pain impulses via the chorda tympani nerve, *Ann. Otol., Rhin. & Laryng.* 60: 591-611 (September) 1951.

5. Zenker, W.: *Zeits. fur Anat. und Entwich.*, 119, 375-388, 1956.



- gripping of jaw during extreme pain
- parotitis, early parotid tumors
- furuncle or cellulitis of external ear canal
- quinzy
- injection of local anesthesia preceding dental treatment
- tetanus

Treatment of diseases of the temporomandibular joint embraces everything from removal of a single source of trismus to surgical attack upon the joint itself. If an accidental movement of the lower jaw, such as a blow to the jaw or a yawn, produces enough irritation within the joint, trismus and otalgia ensue. The treatment is external elastic splinting, local heat and sedative drugs. If the origin is an abscessed tooth or infection of the ear canal, removal of these sources is the solution.

Overclosure of jaws with compression of eustachian tubes proved to be the only factor in "deafness." This was a subjective reaction of the patient and not substantiated by audiometric tests. *The responsibility of the otologist is to oppose strongly any advice that promises that change of occlusion will benefit hearing.*

Case 1.: Mrs. G. McC., age 73. When examined on 9-12-58 this patient described attacks of "catching" of the jaw, constant radiating pains to the left ear and deep soreness in the left side of the throat. This discomfort extended behind the left side of the soft palate as if a chronic infection were present. She frequently asked her physician to apply strong solutions to the area behind the palate on the left side.

Examination showed crepitus in both mandibular joints, the left extremely tender to palpation. No masseter tremor. Films showed flattening of the right condyle, the glenoid fossa also flattened to conform to the shape of the condyle, and joint spaces narrowed on the right side. All left joint structures normal in appearance. Occlusion was perfectly balanced by recent dental restorations.

Elastic splinting of the jaw was started, using 2 mm. cork within the right side during the half hour treatments. She reported much improvement on 9-15-58 and requested removal of a tonsil fragment from the left side of the throat. This was done at St. Luke's Hospital on 9-22-58. During the surgery an elongated styloid process was found, embedded in scar tissue and fixed to tissue near the base of her tongue. This was exposed, and 2 cm. of the process amputated. Even before the soreness left her throat most of her original pains were gone. When seen two months later she was symptom free.

This case was selected as an example of Class I in which the remote cause of trismus and pain, elongated styloid process,<sup>6</sup> was discovered, almost by accident. Hydrocortisone injection of the joint was not clearly indicated; use of elastic splinting was quite helpful; and occlusal restoration had

removed some of the symptoms. Complete relief was not accomplished until the source of pain and trismus was removed.

#### CLASS II

Semi-permanent, recurrent, with pain effects and structural changes:

- fracture of the jaw
- intermittent trismus from third molar impaction
- abnormal joint relations in development of asymmetric jaws
- erosion of condyle, meniscus, and tubercle, as a malocclusion effect
- sharing general osteoporosis

If the joint changes are secondary to long standing malocclusion and improper action of the condyle, irreversible changes in the meniscus, cartilage and bone structures of the joint occur. These tissues cannot be improved, but restoration of balanced occlusion usually removes the source of stress and damage, so that pain and trismus are relieved.

*So many cases of this group improve on splinting of the jaw, concurrent with injection of the joint with hydrocortisone, that restoration of occlusion becomes optional.* Interruption of the trismus cycle thus produces such comfort that no other treatment is necessary, unless grossly bad action of the condyle continues the irritative reflex and a pain sequence again ensues.

Examples selected from this class, in which occlusal restoration has failed, or succeeded temporarily, respond to resection of the meniscus and retrocondylar pad. The meniscus is usually found to be deformed, rough with dense adhesions, or impacted upon exostoses of the condylar head. The retrocondylar pad, bearing sensory elements, is resected along with the meniscus. Pain is relieved but excursion of the condyle is usually neither restricted nor improved by the procedure.

Case 2.: Mrs. N. L., age 29. This patient gave a history of a blow on the chin at age 10, severe enough to knock her out. At age 19, while chewing gum, she had a painful snap of the jaw and since then felt crepitus in both joints on chewing. Left sided otalgia and attacks of trismus increased since 1957. Injections of Hydeltra into the joint were made in January and July of 1958, with temporary relief.

When examined on 9-12-58, mouth opening was limited to about 2 cm. between the incisors. Palpation of the joints was difficult but revealed extreme tenderness, both sides. X-rays showed angular deformity of left condyle, increased density and fixation on the left. The right joint was normal, except for wide excursion on opening. She was started on elastic splinting of the jaw and, when reviewed 10-21-58, she could open the jaw widely, but still had otalgia on the left side.

On 10-22-58 surgical exploration of the left joint revealed a scarred mass replacing the meniscus and retro-

6. Eagle, Watt W.: Elongated styloid process, Arch. Otolaryng. 67: 172-176 (February) 1958.



condylar pad. The eroded and jagged upper condyle surface was removed, amounting to partial condylectomy. She was discharged on 11-1-58, free of pain, with mild sideward shift of jaw action. The use of elastic splinting was continued, using the cork within the operated side. When seen two weeks later there was marked improvement of all symptoms.

This case is borderline between Class II and Class IV. Although some ankylosis had occurred, she was restricted from wide opening by pain more than by structural change. This was proved by wide opening of the jaw after three weeks of elastic splinting, an excellent experiment in demonstrating the pain origin of trismus.

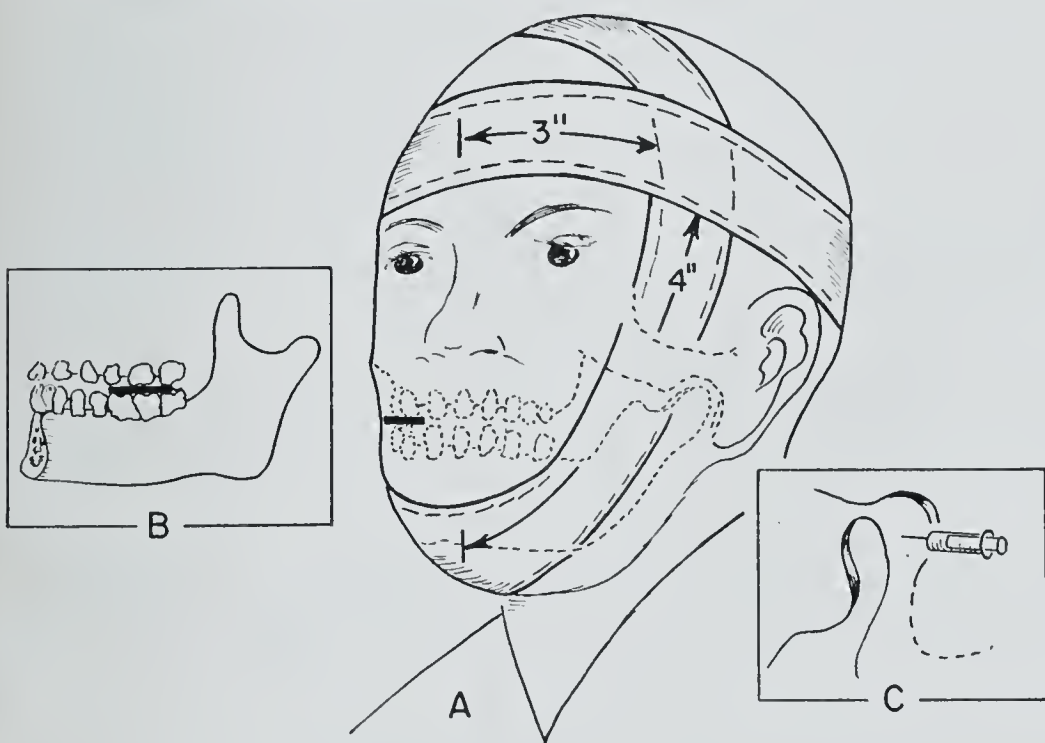


Fig. 1: This type of elastic chin support is the most practical for "splinting" the mandible, in controlling painful movement of the condyle. Change from the condyle's habitual rest position is made by interposing a small cork disc between teeth opposite the painful side, or bilaterally if both sides are affected. (A & B)

The size illustrated may be used for the average head, adding  $\frac{1}{2}$  inch to both vertical and horizontal loops for large, and using  $\frac{1}{2}$  inch less for smaller size ranges. The supports are best produced in hospital linen rooms. The material is 3 inch Natural Color Elastic, Style No. 3746, produced by United Elastic Corp., Stuart Division, Stuart, Virginia.

Hydrocortisone injection, usually 25 mg., is made with mouth open, directly into the synovial space of the joint. Skin and capsule are prepared with novocaine. (C)

#### CLASS III

Semi-permanent, recurrent, with or without joint pathology:

- bona fide pain effects relieved by occlusal restoration, but retained by patient as a conversion neurosis
- hysterical trismus with no joint changes
- pain effects, tiring of jaws, inability to tolerate dentures, based on masseter tremor

During the study of a group of cases unimproved after dentistry, masseter muscle tremor,<sup>7</sup> an ob-

7. Costen, James B.: Masseter muscle tremor: An important factor in mandibular joint dysfunction, *Laryngoscope* 65: 12, 1129-1135 (Dec.) 1955.

scure muscle reaction with psychogenic implications was identified as important in the etiology of these unimproved cases. Ordinarily tremor has been associated with fear, shock, and neurologic changes. Apart from these conditions it had usually been unnoticed when the mandibular joint syndrome was studied. The pathogenesis is not clear, neurological examination being negative.

Since emotional overlay is a large factor in this condition, psychotherapy appears to hold promise in treatment. Meanwhile, in spite of the failure of treatments directed to jaw structures, the patients, without exception, are relieved by passive support, simple elastic splinting of the jaw and masseter muscle group. Short half-hour periods are more effective and more restful than longer ones. A few have shown improvement on tranquilizing drugs, small doses being given along with other measures.

The most difficult and deceptive group, these patients refuse to accept their unfortunate status. They will receive a careful study and faithful explanation of the case and appear to understand the problem. After a prolonged absence in which many procedures have been tried, they return for an explanation of "treatment" failures.

#### CLASS IV

Permanent, developing ankylosis:

- arthritic pain effects, subsiding as ankylosis increases
- fibrosis after fracture of head of condyle or tympanic plate
- fibrosis and osteitis after mastoiditis, a delayed effect of one year or more
- foreign body, as bullet injury
- fibrosis of internal pterygoid or masseter fascia after dental anesthesia (injection), and after parotid abscess.

When excursion is restricted, partially or completely as in ankylosis, amputation of the condyle is done. All fibrous scarring about the joint and coronoid process is resected. When matted and firm, removal of the coronoid process is sometimes necessary before free movement of the lower jaw is obtained. When a partial or limited condylar resection is anticipated, the trouble-free endaural incision<sup>8</sup> is used to expose the joint. Incision anterior to the auricle and along the zygoma may be readily used for more extensive exposure of the ramus.

Unnecessary surgery on one or both joints has converted some patients belonging to the neurosis group, Class III, into mutilations of Class IV.

8. Rongetti, J. R.: Meniscectomy: A new approach to the temporomandibular joint, *Arch. of Otolaryng.* 60: 566-71, 1954.



## SUMMARY

It is not necessary to revamp our reasoning as to why the mandibular joint syndrome occurs. The findings are mainly objective and obvious.

It is extremely important to apply direct measures to the joint action, such as elastic splinting of the jaw and injection of steroid substances. These should be used routinely, over long periods, even in the presence of suspected neuroses.

Four general categories have been mentioned. In all groups the complex interaction of neuromuscular cycles requires the use of measures which remove the source of trouble, and still leave jaw function.

Relief of pain is primary in all treatment, but as in no other joint in the body, further ankylosis must not be implemented in the course of treatment.

3720 Washington Blvd.

**Chest Blow May Start Arrested Heart**—A fast blow on the chest may start a heart beating after it has suddenly stopped, an Oregon physician said recently.

Writing in the July 11 Journal of the American Medical Association, Dr. John T. Brandenburg, Medford, reported a case of cardiac arrest—in which the heart suddenly stops for no apparent reason—that was treated by three strong blows on the left side of the chest.

The most frequently reported means of treating cardiac arrest is by opening the chest and massaging the heart. However, this must be done within four minutes. If the brain is without blood for more than four minutes, irreparable damage will occur.

Dr. Brandenburg's patient was a 64-year-old man who suffered a heart attack on the golf course. Shortly after he arrived at the hospital, he suddenly announced that he was "passing out."

No pulse could be felt and heart tones that had been clearly heard a minute before were absent. "A diagnosis of death due to cardiac arrest was made and thoughts of immediate thoracotomy were entertained," Dr. Brandenburg said.

However, he remembered that other doctors had advised chest blows, and he struck three blows with his clenched fist.

"Just after the third blow, to my delighted surprise," Dr. Brandenburg said, "a strong, but very irregular pulse was felt which soon became regular."

The total period of cardiac arrest was less than one minute. About 10 seconds after the return of his pulse, the patient regained consciousness with the comment, "I must have passed out."

The patient was treated routinely and recovered uneventfully.

Dr. Brandenburg recommended that a chest blow first be tried in cases of cardiac arrest. If there is not an immediate response, other methods should then be tried.

**Child-Feeding Tips Offered in Today's Health**—Between the ages of one and three, children frequently turn from "eager eaters" to "negligent nibblers."

Although this is a fairly normal occurrence, many mothers become anxious and upset, complicating the problem further.

Some tips on handling the situation were given by two Jacksonville, Fla., pediatricians, Drs. Cornelia M. and Hugh A. Carithers, in the July Today's Health, published by the American Medical Association.

"During the first year of life, babies usually triple their birth weight; during the second year, a gain of about five pounds is average," the doctors said. "Moreover, this relatively small weight gain, as compared to the first year, is never steady."

"For two or even three months at a time the weight may be stationary. During these lulls in growth, the appetite wanes and not only does the child need little food, he wants little."

In addition, the youngster has reached the "negative stage," in which he is developing a will of his own.

In most cases, children will select what they need and want if left alone over a period of time. However, the mother must still provide the opportunity for the eating of a balanced diet.

The doctors suggested that the mother watch the trend of the child's appetite and serve his plate accordingly. This will cut down on waste and spare her nerves.

If the trend is toward milk and away from vegetables, for example, only small amounts of the latter are provided," the doctors said.

If the child goes on a "milk holiday," the best policy is to use abundant milk on cereals, soups, sauces and other foods, and not urge that it be drunk.

The doctors also suggested the following:

—As the child learns to feed himself, he should use a shorthanded spoon. Thick sticky foods such as potatoes and cereal are more likely to make "the precarious journey successfully from plate to mouth."

—The time to introduce coarse foods can be determined by watching chewing motions made by the baby. When good, strong chomping motions are made, some coarse foods (toast or crackers) may be enjoyed.

—Children's food should be well seasoned, although not too highly. It should be attractively served.

—Color influences youngsters in their choice of food. It has been noted that children are more likely to eat bland potato or celery soup if it is colored red with a vegetable dye than if it is served in its natural state. Beets are often more popular than cauliflower.

At one time more than 99% of the cases of Rocky Mountain spotted fever occurred in the Mountain and Pacific States. But now the incidence of the disease in these areas has declined markedly, and the ailment is increasingly prevalent in the South Atlantic states. It has been known to occur in Long Island, New York, since 1912, according to the current edition of *Patterns of Disease*, published by Parke, Davis & Company for the medical profession.



**Arctic Called Place to Live, Work**—Summertime excursions across the Greenland ice cap may someday be no more dangerous than camping in the Sierras, an Army physician has predicted.

"Those who pioneered the West found the Sierras almost impenetrable, but today city dwellers, without batting an eyelash, spend happy and unconcerned weeks camping there," according to Capt. Alan D. Matzger.

Someday, the frozen regions of the world will be similarly treated. However, much must first be learned about the regions and their effect on man's health.

Captain Matzger, who is stationed at the U. S. Army Medical Research Laboratory, Ft. Knox, Ky., is spending the summer in Greenland, providing medical support for army engineers near Thule.

In a guest editorial in the July Archives of Internal Medicine, published by the American Medical Association, Captain Matzger noted that many people are already living and working in the arctic regions. They are no different from persons living in the United States, Australia or France, and their lives are no more dangerous.

"Just as we have learned that it is safer to cross an intersection when the light is green, they have their 'homely' safety precepts," Captain Matzger said.

They know that they cannot take needless chances; that they must be prepared to be isolated whenever they leave their communities. Following such rules becomes second nature.

Life in the frozen regions of the world is "most emphatically not a struggle for existence. Fruitful, meaningful important work has been done, is being done and will be done," he said.

The commercial possibilities are already being developed. Oil and uranium is being exploited in the Canadian subarctic. Sealing and codfishing industries have been established. Denmark has begun encouraging vacations in Greenland for its citizens. Other islands will become popular as vacation spots.

Before the areas can be fully developed, many questions of a fundamental nature must be answered, he said. They include: What are the dietary caloric requirements? What factors aggravate the production of frostbite? What is the effect of extreme cold on disease-causing organisms and on various diseases themselves?

How can the public health problems of water and sewage be solved? What happens when man does not have the normal day-night cycle of the temperate regions?

"There is some germ of the pioneer in most of us yet. Here is probably the last geographic frontier. . . . Someone will take advantage of it; we will have to know about it," Captain Matzger concluded.

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Nearly 2,000 persons from all over the world will gather in Chicago Aug. 29-Sept. 4 for the second World Conference on Medical Education.

The conference, sponsored by the World Medical Association, will be attended by medical educators from 50 countries. Other sponsoring groups are the World Health Organization, the Council for International Organizations of Medical Sciences, and the International Association of Universities.

The Palmer House will be the place of meeting.

**Loss of Memory Afflicts Thousands Every Year**—If you ever encounter an amnesia victim, the best thing to do is to take him to the nearest hospital for immediate medical and psychiatric treatment.

This is the advice of Dr. Gloria Bentinck, clinical director of psychiatry at San Francisco Hospital, who treats 25 to 35 amnesia victims a year. She is quoted in an article in the July Today's Health, published by the American Medical Association.

You should never try to treat a person with loss of memory yourself. The earlier he receives psychiatric care, the better, according to Dr. Bentinck.

The Today's Health article pointed out that amnesia is "more than a tired vehicle for grade B movies;" it is a frightening reality to thousands of persons each year.

Amnesia is the functional disturbance or loss of memory. It may be general, with complete loss of recall, or partial, with the forgetfulness of only certain ideas, names, words, events, people, and their associations.

It has been described as the "shell shock of civil life," the article said. It is frequently encountered on the battlefield, where soldiers see more horrors than they can bear to remember.

Unfeigned amnesia of psychic origin is not commonplace. When it comes, the malady usually disappears in a few days or a week, even without treatment. Frequently such victims can be hypnotized and made to relive incidents from their pasts which may offer clues to their identity.

One of the most severe forms is known as fugue, which almost always reflects the presence of a deep-seated psychoneurosis or a constitutional inability to face reality, the article said. However, even normally sound and well-adjusted persons—if the stress is sudden or reaches an unbearable degree—can take refuge in temporary amnesia, which does not always indicate immaturity or emotional inadequacy, the article said.

Amnesia can appear following physical damage to the brain. It may be a symptom of organic disease, such as tumors or abscesses in the head. Asphyxia may cause temporary forgetfulness, as may sedatives, anesthetics, and alcohol. The degenerative changes of old age may also produce amnesia.

Each year some 20,000 amnesia cases are reported by police, hospitals, and public welfare agencies, the article said. Of these, more than half may be faked or pretended. The term amnesia is used frequently to describe cases where persons, disappearing from their homes, later reappear and claim complete loss of memory for any events connected with the disappearance. It may be only an excuse or may be a way of finding relief from an unpleasant situation.

But whatever the cause, the amnesia victim needs medical and psychiatric aid.

The article was written by Stanley S. Jacobs, San Francisco.

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Cars that did not have the right of way injured 608,400 and killed 3,890 persons on U. S. highways in 1958.

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There were 24,830 pedestrians injured crossing intersections *with* the signal in their favor during 1958 in the United States.

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In 1958, more than 49 per cent of the traffic injuries resulted from weekend accidents.





# Editorials

## Dr. L. L. HILL HONORED

The Society for Vascular Surgery has added new luster to the memory of Dr. L. L. Hill of Montgomery, one of Alabama's great physicians and the first surgeon in America to suture the human heart successfully. Dr. Hill (1862-1946) was honored posthumously with a plaque commemorating his "pioneering contributions" to cardiovascular surgery.

The plaque was accepted by Dr. Hill's son, United States Senator Lister Hill.

In accepting the plaque honoring his father, Senator Hill recalled that in 1902 Dr. Hill accomplished a medical "first" in this country when he successfully sutured the knife-pierced heart of a 13-year-old Negro boy. This milestone in American surgery took place in Montgomery on a kitchen table in a crude wooden shack under the flickering light of two kerosene lamps.

Although Dr. Hill enjoyed outstanding success in his professional field, he is remembered today equally well as a warm and understanding human being.

His philosophy in this regard is set forth in Dr. Hill's own words delivered at a banquet in Montgomery in 1932 commemorating his fiftieth year of practice. Said Dr. Hill at this time: "I care not what a man's mental endowments are nor what his professional attainments may be, unless he is true to his ideals, and has the approval, the sympathy of his fellows, his life is a failure, for the dominant and triumphant tone of life is love."

At this same banquet, Dr. Rudolph Matas of New Orleans, himself a famous American in surgery, demonstrated Dr. Hill's success in following this philosophy when he said: "We who love him for what he is to us personally and professionally hail the advent of his golden jubilee with the acclaim that is due to the prize winner in the race of life's noble achievements."

Dr. Hill was graduated at 19 from New York University Medical School. The following year he was graduated from Jefferson Medical College in Philadelphia, after which he spent a year at Wyeth's New York Polyclinic School, and then studied for some months under Joseph Lister at

King's College Hospital in London. In 1881 after his graduation in New York, he was admitted to the practice of medicine in Alabama. He died in 1946 after ministering to the sick and suffering in his home state for more than 60 years.

## MEDICAL PROGRESS ASSEMBLY

Birmingham, September 13-15

One of the South's largest and most comprehensive postgraduate medical assemblies will be conducted in Birmingham, September 13-15, 1959.

Some 4,000 leading Southern physicians have been invited to the second annual Medical Progress Assembly which will feature a speaking faculty comprised of 16 nationally recognized physicians in various specialties.

The Assembly will be presented by the Birmingham Academy of Medicine and will be held in the Dinkler-Tutwiler Hotel.

Hundreds of physicians from the southeast took part in the Assembly last year and both the speaking faculty and subjects, as well as the exhibits, have been expanded this year.

The serious and scientific programs will blend with fellowship and social activities. There will be special programs for wives of physicians who attend the Assembly.

Registration will open Sunday, September 13 at the Tutwiler and again at 8 a.m. on September 14. A reception and social function are scheduled for Sunday evening. An advance registration fee of \$15.00 has been set to facilitate registration and save time upon arrival. Checks may be sent to Medical Progress Assembly, P. O. Box 2591, Birmingham 2, Alabama.

The American Academy of General Practice has approved the Assembly for 12 hours of Category I credit. Each of the speakers was chosen because of his recognized abilities and contributions to modern medicine.

Main speakers and their subjects will be:

Dr. C. Paul Hodgkinson, Henry Ford Hospital, Detroit, Michigan, "Obstetrical Hemorrhage"; Dr. Ed S. Stafford, Johns Hopkins University, "Diver-



ticulitis of the Colon, Surgical or Medical?"; Dr. Edward D. Freis, Veterans Administration Hospital, Washington, D. C., "The Treatment of Hypertension with Antihypertensive Drugs"; Dr. I. Snapper, Beth-El Hospital, Brooklyn, New York, "The Diagnostic Treasures of Empirical Medicine."

Speakers will also include: Dr. Earle B. Mahoney, University of Rochester School of Medicine, Rochester, New York, "Diagnosis and Management of Constrictive Pericarditis"; Dr. Howard F. Polley, Mayo Clinic, "The Management of Rheumatoid Arthritis"; Dr. Benjamin Felson, University of Cincinnati, Cincinnati, Ohio, "Some Roentgen Signs of the Acute Abdomen" and Dr. Curtis P. Artiz, University of Mississippi, "Management of Thermal Burns."

Doctors will also hear discussions from the following: Dr. Richard Bing, Washington University, St. Louis, Missouri, "Changing Concepts of Coronary Heart Disease and Coronary Circulation"; Dr. A. Edward Maumenee, Johns Hopkins University, "Ocular Manifestations of Systemic Diseases"; and Dr. H. H. Bradshaw, Bowman Gray School of Medicine, Winston Salem, North Carolina, "Surgical Management of the Patient with Incurable Cancer."

In addition, talks will be made by Dr. R. Gordon Douglas, Cornell Medical School, New York, "A Conservative Approach to Gynecologic Surgery"; Dr. William B. Bean, State University of Iowa, "Useful Lessons From Rare Diseases"; Dr. Jack Lapidus, University of Michigan School of Medicine, Ann Arbor, Michigan, "Fluid and Electrolyte Balance"; and Dr. Stewart Wolf, University of Oklahoma School of Medicine, "An Evaluation of the Pertinence of Life Situations and Emotions to Cardiovascular Symptoms and Disease."

#### **BLOOD CHOLESTEROL LOWERED WITH NICOTINIC ACID**

Prompt and sustained reduction of blood cholesterol levels has been obtained in hypercholesteremic patients treated with large doses of nicotinic acid, according to Drs. William B. Parsons, Jr., and John H. Flinn, of the Department of Internal Medicine, Jackson Clinic, in Madison, Wisconsin.

Drs. Parsons and Flinn reported, in a scientific exhibit at the 108th annual convention of the American Medical Association, that nicotinic acid is an effective and practical agent for the reduction of elevated levels of blood cholesterol, particularly the beta-lipoprotein fraction.

The lowering of blood cholesterol is believed to be a factor in preventing or arresting atherosclerosis. There is increasing evidence that the occurrence of atherosclerosis can be associated with

hypercholesteremia and elevated ratios of beta-lipoprotein to alpha-lipoprotein cholesterol.

Drs. Parsons and Flinn reported on the effect of nicotinic acid on 44 patients over a period of 56 weeks. Patients were given 3 gm. of nicotinic acid daily, in divided doses, for a period of 12 weeks, after which dosage was tailored to meet the response of the individual.

After 30 weeks, nicotinamide was substituted for nicotinic acid. After 12 weeks with nicotinamide, nicotinic acid therapy was resumed in the form of capsules containing nicotinic acid supplemented with B complex vitamins (Vastran Forte, Wampole Laboratories). B complex is combined with nicotinic acid to prevent the vitamin imbalance which sometimes occurs when nicotinic acid is administered alone.

Patients were not under any dietary restrictions, with one exception, during the term of treatment.

The side effects which often occur after ingestion of nicotinic acid (flushing and pruritus) were found to subside within the first week of therapy in nearly all cases.

Drs. Parsons and Flinn observed no serious toxic effects attributable to nicotinic acid.

The Wisconsin investigators also pointed out that the mechanism by which nicotinic acid produces a reduction in cholesterol remains obscure.

Significantly, they found that the substitution of nicotinamide in equal dosage after prolonged nicotinic acid therapy was followed with a prompt return of blood cholesterol to pretreatment levels in every patient.

The apparent failure of nicotinamide may provide a clue to the mechanism of action because of the slight chemical differences between the two drugs.

The physicians stress that study for a much longer period (5 to 10 years) will be required to determine whether this form of therapy for hypercholesteremia will prevent or retard the progression of atherosclerosis in humans as it does in laboratory animals.

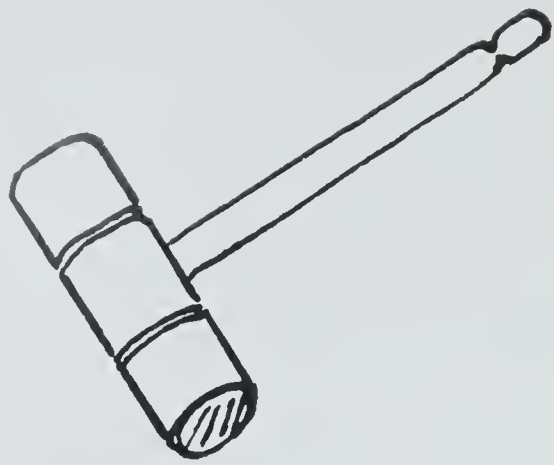
This study was supported by grants from the National Heart Institute, American Heart Association, Wisconsin Heart Association, and Wampole Laboratories.

NEXT ANNUAL SESSION

MOBILE

APRIL 21, 22, 23, 1960





# President's Page

JEROME COCHRAN

(Concluded)

IT was on Feb. 19, 1875, as I stated in last month's Journal, that the Governor of Alabama signed the act making the State Medical Association the State Board of Health. That act also made county medical societies county boards of health, and it was in this provision that the only significant change in Dr. Cochran's plan was made in later years. By act of the Legislature approved Sept. 29, 1919, the board of censors of the county medical society was constituted the county board of health rather than the society as a whole.

When the Governor had signed the act creating a general system of boards of health for Alabama, the Association adopted a resolution at its 1875 session to the effect that it accepted for itself and for the county medical societies the provisions of the act, and that it and they would endeavor to discharge the duties assigned in good and with earnest purpose to be of service to the people of Alabama.

Concurrently and by ordinance of the Association, a State Committee of Public Health of five members of the Association was created to discharge the health functions of the organization. In 1877 this body, with the original board, became one, and that is as we know it now—10 physicians serving in three capacities: as a State Board of Censors, as a State Board of Medical Examiners, and as a State Committee of Public Health—and of the latter the Governor is ex officio chairman.

Some have considered our organization to be complex, and it must be to a degree, for, as I have said, it is more than a purely scientific body. Were our organization merely for mutual benefit and scientific advancement it would be constituted like all other state medical associations, but since it is a legal body endowed with public health functions its machinery must be of a different kind. Indeed it must be akin to a legislature.

The legislature of the Association is a unicameral body that meets on the last day of the Association's annual session, and is composed of delegates and counsellors—delegates representing county medi-

cal societies and distributed on the basis of civilian population per county; counsellors chosen by congressional districts and allocated according to the number of members of county medical societies in each district. These are they who represent you and annually receive and act upon the report of the State Board of Censors, acting in its three capacities.

All this was conceived by the intellectual machine that was Jerome Cochran, whose foresight continues to be a marvel to those who reflect upon his accomplishments. Plan a medical and public health organization that will meet conditions 80 years hence and you will have attained what Dr. Cochran achieved more than four-score years ago. Surely he "conceived and heroically and successfully executed a plan of organization that, for wisdom of conception, for logical arrangement, and for completeness of detail challenges the world for a superior."

In the last analysis the attainments of one's life are not measured in terms of material wealth accumulated but in benefits conferred on one's fellow man. Gaged by such standard, Dr. Cochran's monument is an imperishable one in that through the structure he built "health work can be done more cheaply because it is pursued as an incidental function of an already existing organization; and more efficiently because all medical men are virtually engaged in the endeavor according to their opportunity and capacity."

Men do not always labor in vain but, as someone has so strikingly said, are "like the great luminary that in its meridian splendor warms the earth, then sinks beyond the western horizon, yet still gilds the heavens with its parting rays and burnishes with its golden hues the western sky. The noble deeds and worthy acts and noble achievements of great men are not lost—the fruits and benefits of their labors live after them to gladden, instruct and illuminate the world."

*W. R. Carter*





## ORGANIZATION SECTION

### PLANNING MEETING REPORT

Twenty-three members of the State Medical Association met in Montgomery on June 20-21 and drew up a program for the coming year.

On hand to assist the bureau chiefs and committee chairmen in formulating a program for the Association for 1959-60 were: Dr. William R. Carter, President; Dr. J. A. Brantley, Vice-President, Southeastern Division; Dr. E. L. Strandell, Vice-President, Southwestern Division; Dr. William E. White, Vice-President, Northeastern Division; Dr. Douglas L. Cannon, Secretary; Dr. E. V. Caldwell, Chairman, State Board of Censors, and Dr. D. G. Gill, Secretary of the State Board of Censors.

At the opening session of the third annual general planning meeting Saturday afternoon President Carter introduced Richard Nelson, Field Representative of the American Medical Association, who spoke on A. M. A.'s new aging program.

Mr. Nelson pointed out that there are today more than 15 million Americans over sixty-five years of age, and that this group is increasing numerically and percentage-wise yearly. He said:

"This group creates a problem for us, perhaps the greatest problem facing us today. There is a need, but how great is that need? We cannot set it aside or, on the other hand, assume that all people become financially destitute on their sixty-fifth birthday.

"Adequate solutions are needed. There are those, like Aime Forand, who would offer solutions without measuring the problem and who, therefore, would miss the mark completely. The Forand Bill, H. R. 4700, proposes to offer hospital and medical care to social security recipients. However, this group represents only 2 out of 3 of those over sixty-five. No provision is made for the other one-third.

"The first step that needs to be taken is to measure the problem and determine how big and severe it really is. Second, what are the incomes and resources of this group? Third, what needs exist, to what degree, and how many people are involved? Fourth, what are their health needs and to what extent are they being met? Fifth, what social and recreational facilities are available to them? Sixth, what job opportunities still exist for them?

"In terms of physical facilities, what are available, needed, and proposed for our senior citizens? To what extent are prepaid plans available to this group? And do they want this type of coverage?

"After having determined the real, rather than imagined, size of the problem, we can proceed to offer sound programs to solve the problems that really do exist, and not offer political panaceas.

"We need to keep in mind that by fighting national legislation, such as the Forand Bill, we are only borrowing time. The real, effective and appropriate solutions must come from the communities, counties and states. You are in a position to provide sound leadership for these answers in Alabama.

"This brings me to my second point and that is national legislation. In years past you here in Alabama, as well as in other states, have done a good job in this field of activity, but we need to do an even better job.

"Historically, we have seen the eras of vote buying, mink coats, mass letter campaigns, big businesses, big railroads, big agriculture, and big labor. Today, I believe we are coming into a new era, which is the era of the sound, friendly advisor speaking as competent local leaders.

"Each Congressman has friends back home who know what the sentiment of the people is; what is good legislation for the area; and how to get him reelected. Congressmen respond to these people; in fact, they seek them out. A few words of advice from these people can and do outweigh mass campaigns of mimeographed 'letters to Congress.'

"Doctors, as intelligent, educated and experienced citizens of the congressional district, need more and more to become a part of this advisory team that is close to the congressman. As a goal we should have six or eight in each congressional district.

"Congressman Mills is getting 600 letters a day favoring the Forand Bill. This is a rate greater than if every doctor in the United States were to write Congressman Mills once during the year opposing such legislation. But he is only one Congressman out of the 436, not to mention the ninety-eight Senators. American Medical Association members account for only 1/10 of one per cent of our total population. But, you have friends! Let's get them in on this job."

In concluding, Mr. Nelson said that the idea of a general planning meeting is one that should be adopted by other states, for it allows a state medical society to co-ordinate its yearly activities fully into a workable program.

Following Mr. Nelson's speech, the members then adjourned to their respective bureaus to hear committee chairmen give their reports and to formulize plans for the coming year.

The bureau reports are as follows:

#### BUREAU OF ADMINISTRATION

The work session of the Bureau of Administration was attended by Dr. J. P. Collier, Advisory Committee member; Dr. J. O. Morgan, Chairman, Committee on Insurance; Dr. J. W. Donald, Chairman, Committee on Medical Education and Hospitals; Dr. D. E. Owensby, Chairman, Committee



on A. M. E. F.; and Dr. E. M. Moore, Chairman, Committee on A. M. A. Program Evaluation.

COMMITTEE REPORTS

*Committee on Insurance*—Dr. J. O. Morgan, Chairman.

The committee is continuing to exert its efforts to make available satisfactory health, accident and professional liability insurance for the members of the Association. It is also working with the Health Insurance Council in an effort to obtain the adoption of simplified claim forms by the insurance companies.

Certain changes are to be made in our Association insurance plans and these changes will become effective early this fall. These changes were approved at the last annual meeting of the Association.

We feel that a greater participation in these plans by our members is one of the greatest needs. Efforts are being made to accomplish this.

The number of law suits against doctors is increasing every year throughout the country and Alabama is not exempt, although we have been rather fortunate so far. Our Association's professional liability insurance plan offers better coverage and is about 25% cheaper than can be obtained elsewhere. Even with this, the participation is quite low.

The majority of county societies have appointed insurance committees but unfortunately most of them are not active. We believe the county insurance committees can be of great aid to doctors who are sued and can be very valuable in stopping threatened suits.

*Committee on A. M. A. Program Evaluation*—Dr. E. M. Moore, Chairman.

The only proposed program still under discussion by our committee is the report of the A. M. A. Committee on Medical Practice regarding a Relative Value Schedule. A. M. A. emphasizes that the need for such study is apparent in the light of current developments; and further states that if medicine does not undertake this activity, it may be done by others who are much less qualified. However, in view of the fact that there is a great deal of controversy on the subject at the present time, the committee has tabled the proposed program in order to give more time for study and thought on the problem. The central office was requested to supply each member with a copy of any articles which discuss Relative Value Schedules. It was the consensus that this program be pursued and evaluated in some other states before taking positive action in Alabama.

*Committee on Medical Education and Hospitals*—Dr. J. W. Donald, Chairman.

Proposed program:

1. Continuation of the Medical Center Section in the *Journal* of The Medical Association of the State of Alabama.

2. Publish monthly in the *State Journal* a calendar of events of medical meetings in the state and surrounding area.

3. Urge County Medical Societies to support Career Day in the local schools and to designate one or more of their members to address the appropriate school classes concerning careers in medicine.

4. Development of an article concerning the Medical College and something of the type of applicant the Medical College is interested in.

5. Consideration of ways and means to stimulate interest in Medical Education Week.

6. Consideration of a plan whereby the Medical College of Alabama would sponsor an annual seminar which would be attractive and educational to the various groups of physicians in the state. This could be arranged by the different departments in the Medical School and it would give the physicians in the state an opportunity to visit the Medical School facilities, etc. This should stimulate interest in the school and also be beneficial to the physicians who attend.

7. Consideration of a program to emphasize to the people of the state the importance of safety belts in automobiles.

*Journal Report*

In 1958 paid advertising space in the *Journal* was increased 24.12% over 1957, and for the first seven months of 1959 there has been an increase of 9% over the like period of 1958. Financially, the *Journal* is in a sound position.

One new section, "Around The State," has been added to the format of the *Journal*.

BUREAU OF MEDICAL SERVICE

In the Bureau of Medical Service work session were Dr. John W. Simpson, Advisory Committee member; Dr. J. H. French, Chairman, Committee on Maternal and Child Health; Dr. Paul Nickerson, Chairman, Committee on Rural Health; Dr. A. I. Chenoweth, Chairman, Disaster Committee; Dr. R. C. Berson, Chairman, Committee on Indigent Care; Dr. Otis Jordan, Chairman, Committee on Tuberculosis and Chronic Pulmonary Diseases; Dr. J. J. Kirschenfeld, Chairman, Committee on Aging, and Dr. B. S. Shook, Sr., Chairman, Committee on Space Medicine.



## COMMITTEE REPORTS

*Committee on Maternal and Child Health*—Dr. J. H. French, Chairman.

Physicians should have better reports on death certificates and should be encouraged to be more accurate in filling them out.

Recommends establishment of premature centers.

Recommends that more attention be given the newborn by insurance companies.

Recommends establishment of poison control centers and that all available information be published in the *Journal* of the Association.

The committee would like to get vital statistics data to all physicians in the state; the best and most effective way to do this is to have it published periodically in the *Journal* of the Association.

*Maternal Section:* Maternal mortality studies in Alabama still show too many preventable deaths. A continuing study of maternal deaths is being carried on. Questionnaires have been sent to each doctor signing a death certificate involving a woman recently pregnant. Of thirty such deaths reported this year, we have received replies from 50 per cent of the doctors as a result of the first letter alone.

The data obtained are available to any group on a state or county level that is interested in helping to reduce such mortality.

We wish to point out that for each preventable death there are many near deaths from infection, hemorrhage, toxemia and anesthesia. Only constant supervision of the obstetric patient and preparation for emergencies can reduce our mortality rate.

*Pediatric Section:* We are interested in anything promoting the welfare of children. We are especially interested in promoting the establishment of premature centers in three or four locations.

We wish to promote interest in problems surrounding the newborn infant and also those of the adolescent.

A survey of the state by a committee of the Alabama branch of the American Academy of Pediatrics has recently been done. We endorse this type study.

In the field of insurance, it is recommended that an effort be made to have the insurance companies give more consideration to pediatrics.

*Committee on Rural Health*—Dr. Paul Nickerson, Chairman.

The committee feels that one of the most important things it should do is to find out which members in each county would be interested in taking on the responsibility of the study and solution of

community and school health problems.

Dr. Nickerson stated that information on poison control was being developed by his committee and that this information will be made available to the Academy of Pediatrics.

*Disaster Committee*—Dr. A. I. Chenoweth, Chairman.

The committee feels that a tremendous amount of work has been done by this committee, but that it was most important that the physicians in the state be oriented as to their position in case of a disaster.

Proposes that organization on the local level be continued and emphasis be brought out in different meetings (specialty groups, etc.).

Contact Civil Defense and Red Cross to determine their present set up for dealing with disaster. Many plans have been made, but there is still a great deal of confusion and lack of understanding which can be avoided only by repeated efforts to present the information to physicians.

Set up channels of contact with Red Cross and Civil Defense and make this information available to physicians, perhaps best through publication in the *Journal* of the Association.

*Committee on Indigent Care*—Dr. R. C. Berson, Chairman.

The problem of indigent care remains very serious and continued work by this committee and the whole medical profession of the state is imperative for its solution.

The committee recommends that the Association urge the Department of Pensions and Security to establish a program to finance the hospital care of the acute illnesses and severe accidents of its clients on as adequate a basis as funds permit. It also recommends that the Department of Pensions and Security work out with the Department of Health and the State Medical Association proper arrangements for the administration of such a program.

The Legislature has appropriated \$250,000 for the medical care of the indigent this year. This is an increase of \$150,000 over the first appropriation.

*Committee on Tuberculosis and Chronic Pulmonary Diseases*—Dr. Otis Jordan, Chairman.

The committee wishes to stress the fact that tuberculosis is not going away as fast as people think.

Rather than have an indiscriminate mass x-ray we should confine our x-ray surveys to the lower income group.

Tuberculin tests should be continued.

The committee feels that it is still important to consider having a law passed to make acutely in-



fectious patients remain in the hospital until released by the hospital staff.

It was brought out in the discussion that physicians could avoid much difficulty if they recalled that each patient sent to a sanatorium presents an individual case, and that no definite prediction should be made to the patient as to the time of his recovery.

There should be some program whereby our medical students, interns and residents could become better acquainted with the facilities and treatment necessary for a patient with tuberculosis.

The increasing necessity for the sensitivity test makes it imperative that a state laboratory be established for making such determination.

The committee wishes to state that the State Medical Association supported the appropriation for the district sanatoria. This appropriation has already been obtained.

The committee recommends that more research on pulmonary diseases be encouraged.

The committee expresses itself in favor of routine x-ray or tuberculin tests on hospital admissions.

*Committee On Aging*—Dr. J. J. Kirschenfeld, Chairman.

Aims of the committee:

1. To acquaint the physicians of the state with the problem.
2. To encourage the State Health Department to continue upgrading nursing homes and working toward the establishment of at least one good nursing home in each county, preferably in association with the county hospital or some general hospital.
3. To encourage widespread extension of voluntary hospital insurance for the aged.
4. To act in advisory capacity to the various and numerous social and state agencies working with the aged.
5. To help formulate a program of medical aid to the indigent aged.
6. To work closely with the A. M. A. Committee on Aging.

Program for the coming year:

1. To continue the educational program for the general practitioners of this state. It is planned to devote the November issue of the *Journal of the Association* to the problems of aging. In addition, it is planned to compile a registry of social services for the aged to be supplied to each physician in the state. This registry will include a listing of the various state, religious, fraternal and

other agencies that can extend help to the aged in any field. A physician will then be able to call upon these when needed.

2. The committee will continue working with the State Department of Pensions and Security and the voluntary insurance agencies.

3. The committee will continue to be represented at various meetings of other committees working with the aging problem.

4. The committee plans to organize a state joint council on medical services sometime this year.

5. The committee has been, and will continue to be, in close consultation with the State Health Department in regard to improving the nursing home situation and extending the Chronic Disease in Aging Program.

6. The committee will continue to act as a clearing house and coordinator for medical action in the field of aging in Alabama.

7. The committee will try to stimulate a more realistic attitude toward aging on the part of the public.

*Committee on Space Medicine*—Dr. B. S. Shook, Sr., Chairman.

The objectives of the committee for the year 1960 are to:

1. Pursue an active educational program throughout the state.
2. Conduct a survey to determine the extent of interest in this area of medicine in the practicing physicians of Alabama.
3. Provide for one or more competent speakers in this field of medicine as part of the program of the Association in April 1960, if the proposal is acceptable to the officers and governing body.

\* \* \*

It was the feeling of all the committees that each committee chairman should make reports periodically for publication in the *Journal of the Association*.

## BUREAU OF PUBLIC RELATIONS

Meeting to formulate the program of the Bureau of Public Relations were Dr. J. A. Brantley, substituting for Dr. J. O. Finney, Advisory Committee member; Dr. J. Michaelson, Chairman, Committee on Public Relations; Dr. M. Vaun Adams, Chairman, Committee on Legislation; and Dr. O. Emfinger, Chairman, Committee on Veterans Affairs.

## COMMITTEE REPORTS

*Committee on Public Relations*—Dr. J. Michaelson, Chairman.

Current Projects:

1. Physician Placement.



2. Speakers Bureau.
3. Medical Assistants Courses.
4. Preparation of TV Spot Announcements.
5. Radio Tapes.
6. Emergency Call Systems.
7. Fair Exhibits.
8. William Crawford Gorgas Award.
9. Liaison with Bar, Dentists and Pharmacists.
10. Public Relations Institutes.
11. Indoctrination of New Association Members.
12. Public Safety Program.
13. Essay Contest.
14. Annual Conference on Athletic Injuries.
15. *P. R. Notes* to Auxiliary.
16. Press Relations.
17. Medical Reporter Award.
18. "Your Health" Articles.
19. Food Faddism.

In spite of the fact that we had the largest representation that we have ever had at the annual session in Birmingham, and an unusually well-attended business session on Saturday morning, there were some people at the meeting who later expressed dissatisfaction and were disgruntled because they were not aware of the many aspects of the Association business that was transacted. Even though it is impossible to please everyone, yet the committee feels that as long as there are disgruntled people in our Association, we do have a problem of education and interprofessional relations confronting us in our Association. When young men attending our annual session go away saying that they will never waste their time by attending another session because they had no voice in the affairs, and did not feel that they had been offered a chance to vote on the issues, then we have a problem that needs correction. Many suggestions for alleviating this problem have been advanced, some of which are as follows:

1. Better indoctrination program.
2. More information concerning the workings of the Association to be mailed out with the Handbook of the Delegates and Counsellors.
3. Institute a reference committee to handle questions and problems.
4. Institute a nominating committee.

*Committee on Legislation*—Dr. M. Vaun Adams, Chairman.

The package of four bills that were approved by the committee has passed the House and have been sent to the Senate.

The Naturopathy Bill has also been passed by the House and has been referred to the Senate.

The Scholarship Bill is now in the Ways and Means Committee of the House and a companion bill is on the calendar of the Finance and Taxation Committee of the Senate.

The proposed State Budget would include these funds so we believe that this bill will pass without any difficulty.

An appropriation bill giving a small appropriation, probably \$2,500.00, to start off the Healing Arts Board and the Basic Science Board will be written and introduced by Rep. Tom Bevill at the proper time.

The Medical Examiners Bill was only studied briefly by the Interim Committee and I seriously doubt if any determined effort will be made to force this through. Brooks Bishop has just written Dr. Rehling, State Toxicologist, requesting an appointment with members of the legislative committee to go over some of the details of this bill.

A bill to require compulsory polio vaccination in school children, the details of which I do not have, has been introduced in the House.

Two bills on mental health have been introduced. Copies of both will be received shortly. Another bill, one on blood labeling, has been introduced. Further comment will be made later.

*Committee on Veterans Affairs*—Dr. O. Emfinger, Chairman.

The committee proposes:

1. To continue distribution of literature that is pertinent to the care of veterans by the Veterans Administration as it has been doing during the past year.
2. To recommend that the State Medical Association adopt recommendations regarding curtailment of Veterans Administration care for non-service-connected illnesses. These could be modeled after the recommendations of the Maryland State Society, but with modifications. (The Maryland resolution is as follows: 1. Limit federal medical care of all veterans to service-connected disabilities. 2. Have veterans with service-connected disabilities cared for by the Armed Forces Hospitals or by local civilian hospitals on a hometown care basis. U. S. Public Health Service hospitals might also be used to a limited extent. 3. If and when Number 1 and Number 2 are accomplished, a study be made from the state level as to the disposition of the Veterans Administration hospital facilities. Consideration should be given to turning them over to the states, possibly as hospitals for tuberculosis and neuropsychiatric patients. In explanation of the above, it is pointed out that 85% or more of the cases cared for in Veterans Administration Hospitals are non-service-connected cases. Several national administrations have stated there is no more reason for a veteran getting free medical service than any other citizen, unless his disability is service connected.)



LEGISLATIVE BILLS PENDING

As this issue of the *Journal* goes to press, a legislative act creating a State Licensing Board for the Healing Arts has passed the House and the Senate and is awaiting Governor Patterson's signature, which can occur on August 25 when the regular session of the Legislature reconvenes.

This bill, the second in a series of four bills approved by the Medical Association's Committee on Legislation, is printed here to help acquaint you with the various phases of it. The bill, entitled H. B. 150 and S. B. 75, states:

A BILL  
TO BE ENTITLED  
AN ACT

To provide for the issuance, suspension, revocation, and renewal of licenses and certificates of registration of all persons admitted to or engaged in the practice of the healing arts or any branch thereof in the State of Alabama; creating a State Licensing Board for the Healing Arts to administer the act and to assist in the enforcement of other regulatory laws; providing for its organization, officers, jurisdiction, powers and duties; prescribing procedures and grounds governing the issuance, suspension, revocation, or renewal of such licenses and certificates of registration; imposing fees and charges; making appropriations; and prescribing penalties.

BE IT ENACTED BY THE LEGISLATURE OF ALABAMA:

Section 1. Board Created—Composition.—There is hereby created a board to be known as the "State Licensing Board for the Healing Arts," composed of the secretary of state, the attorney general and the state superintendent of education. Such board shall select three persons who are not practicing the healing arts or any branch thereof, and who do not have a degree in the healing arts or any branch thereof, and shall submit the names of such persons to the Governor, and the Governor shall select one of such persons to be the executive officer of the board. Such officer shall make and enter a bond for the faithful performance of his duties in an amount to be fixed by the board, and said bond shall be entered into with a surety company authorized to do business in the State of Alabama. The said bond shall be filed in the office of the secretary of state after having been approved by the board and the premium on said bond shall be paid out of the funds of the board.

Section 2. Scope of Powers.—The board as above constituted shall have exclusive power and authority to issue all licenses or duplicates of licenses authorizing the licensee to practice the healing arts, as defined herein, in the State of Alabama, and for the purposes of this act, practice of the healing arts is defined as offering or undertaking to diagnose, treat, operate on, or prescribe for any human pain, injury, disease, deformity, or physical or mental condition, provided that nothing in this act shall be construed as applying to dentists, pharmacists, nurses, midwives, shoe-fitters or salesman, barbers, cosmeticians, Christian Scientists, dispensing opticians or optometrists, or clinical psychologists practicing within the limits of their respective callings; nor to the sale, manufacture, or advertising of drugs, medicines, appliances for the prevention or relief of foot ailments or discomforts, household remedies, chemicals, and household preparations, provided that the vendor, maker or advertiser refrains from any at-

tempt to diagnose.

Section 3. Certificates of Qualification Issued by Other Boards.—It shall be the duty of the State Board of Medical Examiners and the State Board of Chiropractic Examiners, and the branch board issuing certificates of qualification in reference to those persons proposing to practice osteopathy or chiropody, to issue certificates of qualification to the State Licensing Board for the Healing Arts, certifying each applicant for a license who has successfully passed the examination given by any of said boards or whose application for license or certificate of qualification by reciprocity has been acted upon favorably by any of said boards.

Section 4. Certification of Reciprocity Applications.—A licensee of any branch of the healing arts who seeks to be licensed in another state by reciprocity on the basis of his Alabama license shall have his application therefor certified by the board of the particular branch of the healing arts in which he is licensed and approved by the State Licensing Board for the Healing Arts. The fee for this certificate shall be ten dollars (\$10.00) and shall be paid to the board of the particular branch of the healing arts in which said applicant is licensed.

Section 5. Duplicate Licenses—Change of Name.—A licensee of any branch of the healing arts whose license has been lost or destroyed may make application to the board of that particular branch of the healing arts for a new certificate of qualification. Such application shall be accompanied by an affidavit setting out the facts concerning the loss or destruction of the license. Any licensee of any branch of the healing arts whose name is changed by marriage or court order may surrender his or her license and apply to the board of that particular branch of the healing arts for a new certificate of qualification. The fee for any new certificate of qualification shall be ten dollars (\$10.00) payable to the board issuing such certificate. The State Licensing Board for the Healing Arts shall issue a new license upon such certificate of qualification at no additional charge.

Section 6. Powers of Examining Boards.—Nothing in this act shall be construed as modifying, limiting, or in any way or manner affecting the rights of the boards regulating the various branches of the healing arts, as defined herein, to examine applicants for licenses, or for certificates of qualification, or to consider and act upon applications for licenses by reciprocity, submitted to such boards under the law applicable thereto. However, none of such boards shall issue licenses or certificates of qualification to any applicant who successfully passes the examination or whose application for a license by reciprocity is approved, but such board shall issue a certificate of qualification for each applicant to the State Licensing Board for the Healing Arts for licensing as provided herein.

Section 7. Application for License on Certificate of Qualification.—When any applicant for a license to practice the healing arts, as defined herein, or any branch thereof, has complied fully with all the requirements of the law regulating the practice of any specified branch of the healing arts, including all requirements of the basic science law, if the same are applicable by law to such branch of the healing arts, the board in that particular branch of the healing arts shall issue a certificate of qualification to the State Licensing Board for the Healing Arts, certifying the qualification of such person as provided in Section 3, and thereafter such applicant may apply to the State Licensing Board for the Healing Arts for a license to practice the particular branch of the healing arts for which such certificate indicates his qualification. If the board finds that the



## ORGANIZATION SECTION

applicant is of good moral character, and has been duly certified by a branch board as provided in Section 3 hereof, the board shall issue to such applicant a license unless it appears to the board that there is other good and reasonable cause for refusing to issue such license, it being the purpose and intent of this act to give the State Licensing Board for the Healing Arts an overall supervision, discretion and judgment with respect to the issuance of licenses authorizing the licensee to practice the healing arts or any branch thereof within the State of Alabama. The State Licensing Board for the Healing Arts shall have the power, and it shall be its duty, to inspect and determine for itself, and in the interest of the state, that each and every certificate of qualification issued by any board authorized by law to receive applications, conduct examinations and make preliminary determination of the qualification of any applicant for a license to practice the healing arts, or any branch thereof, was lawfully issued by such board and truly and correctly certifies all the facts therein contained.

Each application for a license filed with the State Licensing Board for the Healing Arts shall be on forms prescribed by said board, and shall be accompanied by a fee of ten dollars (\$10.00).

Section 8. Issuance of License.—Upon the filing of an application in proper form, if the board satisfy itself that all requirements of this act have been met, and that such application should be granted in the interest of public welfare, it shall forthwith issue to the applicant a license of a size and artistic design to be determined by the board.

Every such license issued by the board shall be dated and be numbered in the order of issuance, and shall be signed by the Executive Officer of the State Licensing Board for the Healing Arts, and by the chairman or other presiding officer of the state board charged with the duty by law of issuing certificates of qualification, provided that no such license shall require signatures of the State Board of Examiners in the Basic Sciences.

Practitioners of the healing arts, as defined herein, who are duly and lawfully authorized on the effective date of this act to practice the healing arts, or any branch thereof, and all persons lawfully authorized on or after January 1, 1960 under Section 21 of that certain act of the legislature creating the State Board of Chiropractic Examiners to practice chiropractic in this state shall be issued a license by said board to practice the healing arts upon making application to said board.

Section 9. Denial of License—Refund of Application Fee.—In the event the State Licensing Board for the Healing Arts determines that the application of any person for a license should be denied, the board shall promptly, upon reaching its decision, notify the applicant of its action, and such notice shall contain the reason for the board's denial of the application. In all cases where an application is denied, the board is empowered to decide if the fee of ten dollars (\$10.00) which accompanied the application for license should be refunded, and no applicant shall have the right to recover any part of such fee accompanying his application for license, the board being empowered to retain all of said fee in order to reimburse the state for expenses incident to an investigation of the applicant and the credentials certified to the State Licensing Board for the Healing Arts.

Section 10. Notice of Actions Affecting Licenses—Annual Directory of Licensees.—The State Licensing Board for the Healing Arts shall notify the boards of the various branches of the healing arts of the issuance

of each license affecting each individual board, the revocation or suspension thereof, the reinstatement thereof, or any other action affecting the status of such licensees, and the boards of the various branches of the healing arts shall likewise notify the State Licensing Board for the Healing Arts of any suspension or revocation of any license by such boards. The State Licensing Board for the Healing Arts shall publish annually a directory listing all persons licensed to practice any branch of the healing arts in Alabama.

Section 11. Application for Annual Registration.—Every person licensed to practice any branch of the healing arts in the State of Alabama shall on or before the 31st day of December of each succeeding year apply to the board for a certificate of registration which shall be effective during the next calendar year. All new licenses issued by the State Licensing Board for the Healing Arts, upon application and payment of the registration fee hereafter provided, shall be registered by the board at the time of issuance and a certificate of registration, which shall be effective until and including the following December 31st, shall be issued to the licensee. Each application shall be made on a form to be furnished by the board. Such application shall give the applicant's name in full, his address, the date and number of the license issued to such applicant for the practice of the healing arts or any branch thereof, and such other facts as shall tend to identify the applicant for registration and his license as the board shall deem necessary. Each applicant for registration shall submit with his application a check or cash in the amount of five dollars (\$5.00) as a registration fee; provided, that the registration fee for a period of less than six (6) months shall be two dollars and fifty cents (\$2.50). When any licensee shall fail to register and pay the annual registration fee within thirty (30) days after registration become due, as provided in this section, the license of such person shall be automatically revoked without further notice or hearing; provided, that any person whose license is automatically revoked as provided herein may make application in writing to the State Licensing Board for the Healing Arts for the reinstatement of such license and the board shall reinstate such license upon the payment of all past due renewal fees, and upon the further payment of the sum of ten dollars (\$10.00).

Section 12. Certificate of Registration—Change of Address of Registrant.—Upon due application therefor, by a licensee of the State Licensing Board for the Healing Arts, and upon the payment of fees required to be paid by this act, the board shall issue to such applicant a certificate of registration signed by the Executive Officer of the board, which certificate shall recite that such person is duly registered for the year specified.

Such certificate of registration shall contain the name of the person to whom it is issued, the address of the person, the branch of the healing arts in which he is licensed to practice, the date and number of the license, and such other information as the board shall deem advisable.

If any registrant shall change his address during the year for which any certificate of registration shall have been issued by the board, such registrant shall, within fifteen (15) days thereafter, notify the board of such change, whereupon the board shall issue to such registrant, without additional fee, a duplicate registration certificate for such new location.

Section 13. Affidavit of Retirement.—Any person licensed to practice the healing arts or any branch thereof in this state, who has retired or may hereafter



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retire from such practice, shall not be required to register as required by this act, provided such person shall file with the State Licensing Board for the Healing Arts an affidavit on a form to be furnished by the board, which affidavit shall state the date on which said person retired from such practice and such other facts as shall tend to verify such retirement as the board shall deem necessary; provided, that if such person thereafter re-engages in the practice of the healing arts or any branch thereof, such person shall register with the State Licensing Board for the Healing Arts, as provided by this act.

Section 14. Licensees in Armed Forces or Public Health Service.—Any person licensed to practice a healing art or any branch thereof in this state who is a commissioned officer in the Medical Corps of the Army, the Navy, the Air Force, or the Public Health Service of the United States, shall not be required to register as provided for in this act; provided, that when such person resigns or is honorably discharged from one of the aforementioned services and engages in the practice of a healing art or any branch thereof in this state, such person shall register with the State Licensing Board for the Healing Arts as provided for in this act.

Section 15. Display of Registration Certificate—Signs and Stationery.—Every person registered to practice the healing arts, as defined herein, or any branch thereof, under this act shall keep his certificate of registration displayed in a conspicuous place in the office or place in which he practices; and in addition, he shall keep placed in a conspicuous location at the entrance of his office a sign in intelligible lettering not less than one (1) inch in height, containing the name of such person, immediately followed by the recognized abbreviation indicating the professional degree, if any, held by such person, and containing immediately below the person's name, in equal size lettering, the word or words "Medicine," "Surgery," or "Medicine and Surgery," for practitioners of medicine and surgery; "Osteopath" or "Osteopathic Physician" for practitioners of osteopathy; "Chiropractor" for practitioners of chiropractic; "Chiropodist" for practitioners of chiropody; provided, however, that any recognized specialist in any branch of the healing arts, which special field is recognized by the State Licensing Board for the Healing Arts, may substitute the specialist designation for the words indicated hereinabove.

Section 16. Registration Requirements—Relationship to Other Laws.—No provision of this act shall be construed as repealing any other law with reference to the requirements regulating the practice of the healing arts, or any branch thereof, except insofar as the same may conflict with the provisions of this act. It is the purpose of this act to vest exclusively in the State Licensing Board for the Healing Arts the power to issue all licenses and certificates of registration to practice the healing arts as defined in this act.

Any person who receives a license to practice the healing arts, or any branch thereof, shall within ten (10) days after locating in a county file said license in the office of the judge of probate of such county for record, and should said practitioner of the healing arts, or any branch thereof, remove his residence to another county he shall within said time have his license rerecorded in that county.

Section 17. Fees Collected by Board.—No fee for the issuance of licenses to practice the healing arts or any branch thereof shall be collected except by the State Licensing Board for the Healing Arts. The fees for certificates of annual registration required by the State

Licensing Board for the Healing Arts shall be in addition to any annual registration fees required by law to be paid to the boards regulating the various branches of the healing arts. The boards regulating the various branches of the healing arts shall continue to collect fees for examinations, certificates of qualification, annual registration fees, and such other fees as are authorized by law or as are provided by the statutes creating such boards.

Section 18. Receipts and Expenses of Board.—All money, funds and other receipts received by the board shall be deposited in a depository which shall be a bank within this state designated by the board. Such funds shall be expended for carrying out the purposes of this act and may be withdrawn on order of the Executive Officer of the board. All such money and funds and other receipts are hereby appropriated for the use of the board for the necessary and proper expenses of the board and for carrying out the purposes of this act. The accounts of the board shall be examined annually by the office of the Chief Examiner of Public Accounts.

Section 19. Compensation of Board Members.—Payment of Expenses.—No member of the State Licensing Board for the Healing Arts shall be paid any additional compensation for services rendered as members of such board, but all necessary and legitimate expenses incurred by the members of the board shall be paid out of the funds of the board upon order of the Executive Officer.

Expenses of the members of the board and other necessary disbursements shall be paid out of the funds of the board by check or draft drawn by the Executive Officer of the board.

Section 20. Concurrent Enforcement Powers.—The State Licensing Board for the Healing Arts, in addition to the powers and duties vested in it by the foregoing sections of this act with respect to licensing and registration of practitioners of the various branches of the healing arts, shall have the power and duty to enforce the provisions of all regulatory laws now in force and designed to prevent unlawful practices of the healing arts within the state, but this power of enforcement shall not be exclusive in the State Licensing Board for the Healing Arts, but shall be concurrent with the power now vested in the branch examining boards authorized to enforce compliance with the various laws regulating the practice of the healing arts, and nothing in this act shall be construed as limiting or repealing the power of the various examining boards to police and prosecute, in the manner provided by law, violations of any such regulatory statutes.

Section 21. Grounds for Suspension or Revocation of License.—The State Licensing Board for the Healing Arts shall have the power and it is its duty to suspend for a specified time, to be determined in the discretion of the board, or revoke any license to practice the healing arts or any branch thereof in the State of Alabama whenever the licensee shall be found guilty of any of the following acts or offenses:

- (1) Fraud in procuring a license;
- (2) Immoral, unprofessional, or dishonorable conduct;
- (3) Habitual intoxication or addiction to the use of drugs;
- (4) Conviction of a felony;
- (5) Use of untruthful or improbable statements, or flamboyant or extravagant claims concerning such licensee's professional excellence or abilities;



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(6) Distribution of intoxicating liquors or drugs for any other than lawful purposes;

(7) Wilful or repeated violations of any of the provisions of this act;

(8) Conviction for any violation of federal or state narcotic or barbiturate law;

(9) Unlawful invasion of the field of practice of any profession where license is required by this act when the licensee is not licensed to practice such profession.

(10) Solicitation of professional patronage by any means whatsoever; provided that nothing herein shall be construed to prohibit a practitioner of the healing arts from inserting in a newspaper or other publication of general distribution an announcement or notice of (1) his entering into practice at a specific location, (2) his change of address, (3) his formation of a new partnership or other business association; such notice or announcement shall be conservative in nature and shall state only the name of the practitioner, his address or new address, the names of his associates or partners, his former associates or partners, and the branch of the healing arts and his specialties; provided further that nothing herein shall be construed to prohibit the use by practitioners of the healing arts of professional business cards stating the practitioner's name, professional partners or associates, telephone number, branch of the healing arts practiced and specialties;

(11) Receipt of fees on the assurance that a manifestly incurable disease can be permanently cured;

(12) Division of fees or agreeing to split or divide the fees received for professional services with any person for bringing or referring a patient;

(13) Performing, procuring, or aiding and abetting in the performance of a criminal abortion;

(14) Wilful betrayal of a professional secret;

(15) Making use of any advertising statements of a character tending to deceive or mislead the public;

(16) Advertising prices for professional services;

(17) Advertising by the use of hand bills, posters, circulars, cards, neon, or other electric signs, radio, television, newspapers, or any kind of written publication; provided, however, that notwithstanding contrary provisions in laws pertaining to any particular branch of the healing arts, licensees hereunder may be permitted to insert their names, their specialties, if any, addresses, and announcements of clinics, together with the names of staff members of such clinic, in the official publications of the licensees' professions, but this shall not authorize any such insertions in publications intended for distribution or actually distributed to the general public. Such insertions herein authorized shall not in any way be reproduced for or distributed to the general public. Nothing herein shall be construed to prohibit institutional advertising or institutional public relations by any state, county, or district association composed of members of the healing arts or any branch thereof. The term "institutional advertising" or "institutional public relations" as used is intended to mean advertising or public relations promoting the healing arts or any branch thereof in general, but may not include the names of individual practitioners or any personal identification of said practitioners by photograph, telephone number, address, name, or otherwise. Nothing herein shall be construed to prohibit a practitioner of the healing arts from allowing or causing his name, address and telephone number to be inserted in the classified section of a telephone directory under a classification denoting said practitioner's branch of the

healing arts and also his specialty or specialties within said branch, but practitioners of the healing arts shall not cause or allow said listings so inserted to appear in large or boldface type more prominent than ordinary listings;

(18) Advertising any free professional services or free examinations;

(19) Offering discounts or inducements to prospective patients by means of coupons or otherwise to perform professional services during any period of time for a lesser or more attractive price;

(20) Advertising to guarantee any professional service or to perform any operation painlessly;

(21) Advertising any price or prices of corrective devices or services;

(22) Continuing to practice after suspension or revocation of certificate or qualification by the appropriate examining board;

(23) The board may also suspend or revoke the license of a licensee found to be mentally incompetent to a degree and of a character which renders the licensee unsafe or unreliable as a practitioner.

Section 22. Procedure for Suspension or Revocation.—In all proceedings for a suspension, or revocation of license, the holder of said license shall be given fifteen (15) days' notice to prepare for a hearing, and he shall be heard in person or by counsel, or both. Any member of the State Licensing Board for the Healing Arts shall have the power to administer oaths, issue subpoenas, and enforce the attendance of witnesses at the hearing of all matters arising in the course of their duties. The board shall have the power to make all needed rules for its proceedings in such a hearing, and in case any witness shall fail or refuse to obey a subpoena of the board, such board may issue an attachment for said witness directed to any sheriff or constable of the state and compel such witness to attend before the board and give his testimony upon such matters as shall be lawfully required by the board, and if a witness, after being duly summoned shall fail or refuse to attend, or to answer any questions propounded to him, to which he would be required to answer in court, the board shall have the power to fine and imprison such witness for contempt in the same manner as the judge in a circuit court of this state. Each witness who shall appear before the board, by order of the board, shall receive for his attendance before the board the compensation and mileage provided by law for the attendance of witnesses in the circuit courts of this state in civil cases. Such fees for compensation and mileage shall be paid from the funds of the board in the same manner as other expenses of the board are paid.

Any action of, or ruling or order made or entered by said board declining to issue a license, declining to issue a certificate of registration, or suspending or revoking a license, shall be subject to review by the circuit courts of this state. The person aggrieved by such ruling may file an appeal in the Circuit Court of Montgomery County within thirty (30) days after the date upon which such order or ruling is issued. Such notice of appeal shall be filed in the office of the Clerk of the Circuit Court of Montgomery County and shall contain a statement in writing, setting forth the fact that such order has been made by the board, and the ground or grounds upon which such order was made, and the names and residences of the persons constituting such board. The appellant shall also file with such written statement a bond to be approved by the clerk conditioned to pay the costs of the appeal if judgment be



rendered against the party making such appeal. The clerk shall issue a citation to the members of the board, requiring them on behalf of such board to appear before such court at a time to be named in such citation, not earlier than twenty (20) days after the service of such citation. If an appeal is taken under the provisions of this section, the cause shall be docketed in the names of the members of such board as plaintiffs, with the name of the party appealing as defendant. The plaintiff in such cause shall file in said court a written statement signed by a majority of the members of the board or by the attorney of the board, setting forth specifically the charges against said defendant and the reasons for the action of or ruling or order made or entered by said board and why the action of the board should be sustained, and the defendant shall take issue thereon by pleading the general issue. On such appeal the judge shall hear both the law and the facts and if judgment in such cause is rendered in favor of the plaintiff, the court shall enter a judgment affirming such order and shall tax the defendant with the costs of such cause; if judgment is rendered in favor of defendant, the court shall make an order vacating the order of the board and shall tax the costs of said cause against the plaintiff. In its discretion the court may remand the cause to the board for further proceedings. Upon a demand in such court in writing by either party to said cause, all the issues of fact in said cause shall be submitted to a jury to be selected, impaneled and sworn as other juries are selected, impaneled and sworn in civil cases. The decision or order of the circuit court shall be reviewable in the Supreme Court by appeal taken in the same manner as other appeals, but said notice of appeal shall be filed within thirty (30) days from the decision of the circuit court.

Section 23. Proceedings by the Board to Restrain Unlawful Practice.—The State Licensing Board for the Healing Arts, in addition to the powers and duties expressed in this act with respect to the denial of a license, denial of certificate of registration, and suspension or revocation of a license, is empowered to commence and maintain in any circuit court having jurisdiction of any person within this state, who is practicing without a license or to whom a license has been denied, or to whom a certificate of registration has been denied, or whose license has been suspended or revoked by action of the board, an action in the nature of quo warranto as provided for in Title 7, Section 1133, et seq., Code of Alabama 1940, as the same is now or may hereafter be amended to order such person from continuing to practice the healing arts or any branch thereof within the State of Alabama, and jurisdiction is conferred upon the circuit courts of this state to hear and determine all such causes. The board may commence and maintain such action without the filing of a bond or security and without the order or direction of a circuit judge. Nothing in this section shall be construed as conferring criminal jurisdiction upon any court not now possessing such criminal jurisdiction, nor shall any such court, as an incident to the said action in the nature of quo warranto herein authorized, have the power to assess the criminal penalties hereinafter set out.

Section 24. Penalties for Violations.—Any person, except those expressly exempted from the provisions of this act, as above set out, who shall practice the healing arts as in this act defined, or any branch thereof, without first having complied with all the provisions of this act, including the provisions of all laws now in force regulating the practice of the various branches of the healing arts, and any person who shall violate any of the provisions of this act, shall be fined not less

than one hundred dollars (\$100.00) and not exceeding four hundred dollars (\$400.00), and, in addition thereto and at the discretion of the trial judge, may be imprisoned in the county jail for not more than twelve (12) months, and each day any person shall practice the healing arts, or any branch thereof, without meeting all the requirements of all laws now in force, and of this act, shall constitute a separate offense; and any person filing or attempting to file, as his own, a diploma or license of another or a forged affidavit of identification shall be guilty of a felony and shall be subject to the punishment prescribed for forgery in the second degree.

Section 25. Employment of Enforcement Agents—Assistance by Prosecuting Attorneys.—The State Licensing Board for the Healing Arts is authorized to employ investigators, inspectors or agents, and any other employees and assistants, or to use any other means necessary to bring about and maintain a rigid administration and enforcement of this act and the board may incur such expenses as are reasonable and necessary and proper for carrying out the purposes of this act and all laws regulating the practice of the healing arts, and the various branches thereof within the State of Alabama; and, in addition, said board shall at all times have the power to call upon the Attorney General, circuit solicitor, deputy circuit solicitor or county solicitor, or other prosecuting attorney of the state in the various circuits and counties to assist the board in any way the board may request; and it is made the duty of all prosecuting attorneys throughout the state to assist the board, upon its request, in any suit for injunction or any prosecution instituted by said board without charge or additional compensation.

Section 26. This act shall become effective on January 1, 1960, after its passage and approval by the Governor, or its otherwise becoming a law, provided that three certain bills have become law on or before said effective date, to-wit, a bill known as the "Alabama Basic Science Law" (H. B. 151 or S. B. 76), a bill amending and repealing certain sections contained in Title 46, Chapter 13 in the Code of Alabama of 1940, relating to the practice of medicine and the State Board of Medical Examiners (H. B. 153 or S. B. 74), and a bill creating a State Board of Chiropractic Examiners (H. B. 152 or S. B. 77).

#### REPORT OF THE PRESIDENT OF THE WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA—1958-1959

MRS. H. LEON ROSEN

It is a privilege to be here and to bring you greetings from your Auxiliary. We Auxiliary members are mixing pleasure with our business. At our golf tournament yesterday, one golfer missed the ball, but killed every ant in an ant hill but two—one ant nudged the other and said, "Hazel, if we are going to get out of this situation alive, we had better get on the ball." Well, doctors, your Auxiliary has been on the ball this past year.

One night an oil man from Texas stopped at a hotel at Niagara Falls, and typical of all Texans, he bragged about the wonders of his state. His listeners decided to get even. The next morning they took him out to the Falls—that miracle of



nature—and proudly asked, “Have you anything like that in Texas?” He thought a moment. “Well, I can’t say that we do. *But* we have a *plumber* in *Houston* who can stop that leak in ten minutes.”

So I just want you to know that the brief report that I am about to give contains facts.

We now have 1,270 members, the largest membership in the history of our Auxiliary. One new Auxiliary, Conecuh-Monroe, was organized this past year, which gives us a total of 31 organized county Auxiliaries.

Our national theme, “Safeguard Today’s Health For Tomorrow,” was promoted by giving special emphasis to our priority projects, A. M. E. F., recruitment, Today’s Health, and safety.

Through the efforts of a very fine chairman, Mrs. J. O. Brooks, who awakened the Auxiliaries to the great need of our medical schools, we raised the large sum of \$3,000.00 for the American Medical Education Foundation. This is our greatest annual contribution to this fund, about \$1,500.00 more than was raised in any previous year. As A. M. E. F. is a joint endeavor of the Association and its Auxiliary, I was pleased that we were asked to have a representative for the first time at your A. M. E. F. committee meeting this year. In the absence of our A. M. E. F. chairman, I represented the State Auxiliary at this meeting in March. I feel that much good can be derived through these joint meetings.

The program at our fall board meeting held in Montgomery stressed recruitment in allied medical fields with the showing of the paramedical career film “Helping Hands For Julie.” This film was followed by a panel discussion led by Dr. William L. Smith. Most of our Auxiliaries have had splendid recruitment programs. Scholarships and loans amounting to over \$7,000.00 have been given by thirteen Auxiliaries. Twelve Auxiliaries have organized and sponsored future nurses clubs. Our State Auxiliary has available the Lettie Daffin Perdue Memorial Scholarship for \$200.00 to a student at Alabama College, Montevallo.

We have secured 951 subscriptions to Today’s Health.

When called upon by the Association, we stand ready to take an active role in legislative matters pertaining to health. Soon after I took office, we were alerted on the Jenkins-Keogh Bill that would soon come before Congress. We at once contacted our Senators and Congressman and asked for their support of this and allied bills.

We are members of the Alabama Joint Legislative Council, and I attended two of these meetings representing our Auxiliary.

Our national president, Mrs. Arthur Underwood,

has taken special note of our public relations and community service work and has asked that the number of volunteer service hours contributed by each Auxiliary be recorded. Our members estimate that they average over fifty hours per member which gives us a grand total of more than 50,000 volunteer hours for our State Auxiliary.

We appreciate the invitation from your Committee on Public Relations to sit in on its meetings, and it was my privilege to attend two of these committee meetings during the year. As requested by the committee, we have again promoted the essay contest for high school students, which is sponsored by the Association of American Physicians and Surgeons. Four counties, Jefferson, Cullman, Mobile and Etowah, participated in the contest. First, second, and third place winners were Mary Burkett, Jefferson; Virginia Lee Wilder, Cullman; and Theresa Ann Troncale, Jefferson. The county medical societies have given generous prizes and the Committee on Public Relations gives us \$30.00 to be used as state prizes.

Our Auxiliaries have taken an active role in mental health, and they work closely with the mental health societies in their communities. Calhoun County Auxiliary gave a \$75.00 scholarship to a teacher to attend a mental health workshop. It was my pleasure to represent our State Auxiliary at a state mental health meeting in Montgomery.

Two of our past state presidents are now serving our Auxiliary on a national level. Mrs. W. G. Thuss, having served as a director, was elected a national vice-president in San Francisco, and Mrs. John Chenault continues as Today’s Health chairman.

Besides those already mentioned, my activities during the year included visiting 17 Auxiliaries, serving as Alabama’s presidential delegate and giving our state report at our national convention in San Francisco, attending the President’s Conference in Chicago, the Southern Medical Association convention in New Orleans, and the opening ceremony of the State of Alabama Commission on Alcoholism in Montgomery. During the past year, in line of duty, I have traveled 6,000 miles by air, 750 miles by train, and 8,000 miles by car.

This is the fifth year that we have promoted a hobby show featuring creative work by our physicians and their families. I am very pleased that this show has a prominent place for exhibition here at your convention hotel. It is one of the highlights of our convention and I urge you not to miss it.

On behalf of our Auxiliary, I want to express our appreciation to the Association for the space



that has been assigned us in the Association's new home. I also want to thank you for your generous contribution toward the publication of our newsletter, The Wamasa News, which is sent to every doctor's wife in the state, as well as to many other states upon request.

We are indeed grateful to your President, Dr. Edgar G. Givhan, Jr., to Dr. Douglas L. Cannon, and the other members of our Advisory Council, Mr. W. A. Dozier, Jr. and his splendid staff, for counsel and assistance, without which we could not have fared so well.

We also would like to express our appreciation

to the Jefferson County Medical Society for its many courtesies during the convention.

It is a privilege to belong to the Auxiliary to the noblest profession in the world. With that privilege go responsibilities—and membership in the Auxiliary gives us an opportunity to accept and carry out these responsibilities.

We are working together in concerted effort for the growth of the Auxiliary in service to the medical profession. Our potentialities in service are great and we hope you will call upon us. It has been a privilege to be here and bring you this report.



## ASSOCIATION FORUM

### ESTATE PLANNING—WISE AND OTHERWISE

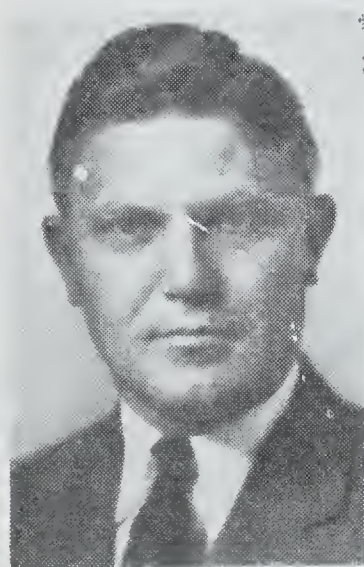
By

James H. Faulkner

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Former Trust Officer  
Birmingham Trust National Bank

Since the first will was written man has concerned himself with estate planning.



Wise estate planning is designed to the end that loved ones will receive one's property in a manner which will best serve their needs, with the least possible loss due to expenses, fluctuating business conditions, and the ever growing appetite of the tax collector.

Estate planning is also designed to avoid as much tax as is lawfully possible. Judge

Learned Hand held in the case of Gregory vs. Helvering that anyone may so arrange his affairs that taxes shall be as low as possible; he is not bound to choose that pattern which will best pay the

Treasury; it is not even a patriotic duty to increase one's taxes.

The U. S. Supreme Court, in affirming this decision, held that the legal right of a taxpayer to decrease the amount of what otherwise would be his taxes or to altogether avoid them by means which the law permits cannot be doubted.

To make an estate plan a reality, a method of distribution has to be selected. The distribution of property is always a two-pronged affair. It involves how the transfer shall be made and what interests in the property are to be transferred. The success of the planning depends largely on the method of distribution used.

The methods of distribution are:

1. The will,
2. Intestacy, and
3. Inter vivos or lifetime transfers of various kinds.

The making of a will is a privilege. It is not a right. The statutory law of the state says who can make a will, and although the laws do not tell a person how he should write his will, there are certain rules that have to be complied with in order for the will to be valid.

When a man makes a will, he is normally at his noblest moment. He, for once, is not thinking of himself. All of his thoughts are for others. On occasion, however, those thoughts are not loving or charitable.

Read before the Alabama Association of Obstetricians and Gynecologists during the annual session of The Medical Association of the State of Alabama, Birmingham, April 8, 1959.



Take, for example, the will of a man of finance who wrote:

"To my wife I leave her lover, and the knowledge that I wasn't the fool she thought I was.

"To my son, I leave the pleasure of earning a living. For twenty-five years he thought the pleasure was mine. He was mistaken.

"To my daughter, I leave \$100,000.00 She will need it. The only good piece of business her husband ever did was to marry her.

"To my partner, I leave the suggestion that he take some other man in with him at once if he expects to do any business."

And, there's the will of a Dutchman:

"I am writing of my will mineself and des lawyir vant he should have to much money, he ask to many answers about the family. first think I vant I dont vant my brother oscar to get a g-- thing I got. He is a mumser. He done me out of forty dollars fourteen years since.

"I vant it that hilda my sister she gets the north sixtie akers of at where I am homing it now. I bet she dont get that loafer husband of her to brake twentje akers next plowing the gonoph work. She cant have it if she lets oscar live on it. I want I should have it back if she does.

"Tell moma that six hundret dollars she has been looking for for ten years is berried from the bakhouse behind about ten feet down. She better let little frederick do the digging and count it when he comes up.

"Pastor lucknitz can have three hundret dollars if he kisses the book. He vont preech no more dumhead talks about politiks, he should a roof put on the meeting-house with, and the elders should the bills look at.

"Moma should the rest get, but I vant it so that adolph should tell her what not she should do, so no more slick irishers sell her vaken clearners, they noise like hell and broom dont cost so much.

"I vant it that mine brother adolph be my evecter, and I vant it that the judge should please make adolph plenty bond put up, and watch him like hell. Adolph is a good business man but only a dumkoph would trust him with a busted pfening.

"I vant dam sure that schliemial oscar dont nothing get. Tell adolph he can have a hundret dollars if he prove judge oscar dont get nothing. That dam sure fix oscar."

These wills, while they may be humorous or even libelous, are not the type to accomplish the orderly and economical distribution of a man's estate. They are not something you would write!

The will is the heart of any estate plan. Its advantages over intestacy are:

1. You exercise control over the distribution and can minimize taxes.
2. A will permits the choice of beneficiaries.
3. A will permits the choice of a personal representative.
4. A will can provide for the special requirements of a wife and minor children.
5. A will can protect beneficiaries from their own indiscretions and improvidence by the use of testamentary trusts.
6. A will can keep the plan of distribution flexible through the use of trusts, powers, and future estates.
7. A will can provide for the orderly manner of the liquidation of assets.
8. A will is less expensive in the settlement of the estate.
9. Through the use of a will, a testator can exercise his benevolent desires by the creation of charitable trusts, gifts, etc.

By dying intestate the decedent's property passes according to the descent and distribution statutes.

If a person died in one state owning property in another state, there would be two state statutes to be applied in the distribution of his or her property. Real property passes under the law of the state in which it is situated, whereas personal property passes under the law of the state where the person resides. In such a case the situation could become quite confusing since all state laws are not alike.

The law provides who will be administrator. Your wife and loved ones may or may not have a choice in the appointment of the administrator. Intestacy normally requires speedy liquidation and may result in disposing of the assets at less than their fair market value. The sale of assets involves getting court orders. This could be expensive. Bond premiums have to be paid and inventories have to be filed in court. It all adds up to a great expense. In the event of minor children, guardians have to be appointed to protect the child's interest. This is costly. Selling the home could only be done through the court. The homestead exemption would have to be set aside for the children.

I'm sure you agree that intestacy is not a desired method of distribution. Every man sees his wife and family as living human beings, not as legislative concepts of surviving spouse and minor children. When looked at in this light, the making



of a will ceases to be a privilege and becomes a duty.

Recognizing his duty, man must analyze the various plans of distributing his property by his will and adopt that plan best suited for him and his family.

One plan, of course, is to leave outright everything to the beneficiary or beneficiaries of his choice. Upon death they take under the will the property absolutely. It is theirs and from then on any further distribution of the property will be up to them.

In many cases involving family men this may not be a wise plan.

A man with children should have the utmost confidence and trust in his wife as to investments and management of property if he is going to leave everything to her absolutely. In many cases, the wife does not know how to invest and conserve the property to take care of herself and the children.

He certainly should not want to leave property absolutely to minor children. Nothing would be solved and more problems would be created.

Perhaps the best plan for the family man is the use of the trust device.

A person may create as many trusts under his will as he desires. These trusts are known as testamentary trusts. They may run in time for as long as the testator desires unless they run afoul the rule against perpetuities. This rule in regard to trusts, simply stated, is that the trust can run for the lives in being at the time of its creation, plus twenty-one years. In other words, assume that a trust is created by a person having a wife, two children and two grandchildren. The trust could run for the lives of the wife, the children and the grandchildren, plus twenty-one years. That period is its legal limit.

Through the use of the trust, a testator could leave his property to his wife for her life, and at her death the property is to pass to his children. While this may be an effective means of distributing his property, the testator has not saved any taxes. The testator can use this means, and by giving his wife an interest in the property greater than a life interest can save taxes. This tax-saving device is known as the "marital deduction."

Briefly, the marital deduction law was passed by Congress in 1948 for the purpose of offsetting the advantages that were enjoyed by community property states over the common law states. It allows as a deduction from the gross estate the amount of property passing to a surviving spouse, limited to an amount equal to one-half the adjusted gross estate. The adjusted gross estate is de-

finied as the gross estate less debts, liens, and administrative expenses.

To explain the marital deduction, I will have to tell you about estate taxes. The estate tax is an excise tax levied on the transfer of property at the death of an individual. It is not a tax on the property. It is based upon the fair market value of the property at the time of death, or one year after death if the alternate valuation is used. The estate pays the tax—not the beneficiary, although after it decreases the beneficiary's share of his inheritance, he thinks he has paid it.

The estate tax is a very venerable tax. Egypt imposed an inheritance tax in 700 B.C. at the flat rate of ten per cent. The Romans adopted an inheritance tax under Augustus during the First Century B.C. Many of the wealthy families were opposed to it. Pliny the Younger was against it and argued that it only augmented the sorrows of the bereaved. The Romans developed the tax to a high degree, improving it from time to time, and adding complications that resembled a modern tax. The wealthy property owners began to devise ways to avoid the tax, but, like us, never got to the point where it was entirely avoided.

Let's take an example of an estate and illustrate how the marital deduction works and the tax that can be avoided through its use. The estate of Dr. John Doe may look like this:

Real estate, consisting of his home valued at \$40,000, and a building and lot, which he rents, valued at \$30,000. He owns stock, bonds and other securities valued at \$50,000. He has life insurance on his life in the amount of \$50,000, the proceeds payable to his wife for life, the remainder to his children.

He has cash, accounts receivable, automobiles, office equipment and other personal property valued at \$30,000. His debts and administrative expenses are estimated to be \$6,000. His adjusted gross estate is \$194,000.

First, assume that he leaves everything to his wife, excluding the insurance, for life, and at her death, his children are to receive the balance. In such a case the tax liability on the estate would be \$30,900.

Second, assume that he wishes to leave everything to his wife absolutely, nothing to the children. The marital deduction may be used here because the property is passing to the surviving spouse absolutely, but it is limited to one-half the adjusted gross estate, or one-half of \$194,000, which would be \$97,000. This amount passed to his spouse tax-free so to speak. In this example his tax liability would be \$4,260, a tax savings of \$26,640. However, we must go further and assume that the wife died with the estate, not using the



principal, not giving it to the children or some other person.

At her death, unless the surviving spouse disposes of some of the property during her lifetime, we have not accomplished much tax-wise. A large amount of tax is avoided in the first estate, but in the second estate the tax liability is increased.

Third, let's consider a will in which there are two trusts: one trust for the wife called a "marital trust," which is equal in value to one-half the adjusted gross estate, and a residuary trust called the "family trust." We also provide that the marital trust shall not be decreased by any estate or succession taxes. Under both trusts the wife receives the income for her life. Under the marital trust she also is given a power of appointment so that she can dispose of the property should she want to during her life or by her will. She also has the power to invade the principal should the income be insufficient for her needs and comfort.

In the family trust we provide for the income to the wife and further provide for invasion of principal in the event income is not sufficient. Upon her death the family trust will pass to the children, or remain in the trust for the benefit of the children until they attain a certain age. The will also provides that if the power of appointment given to the wife under the "marital trust" is not exercised, the remainder of the principal pours over into the family trust and is distributed according to its terms.

This is by far the best and most economical method of distribution under the above examples. The marital deduction qualifies because the wife receives an interest greater than a life interest—the power of disposition. She also is provided for the extent of the husband's resources, and the children are assured of receiving an inheritance should they outlive their mother.

Taxwise, there would be \$4,260 on the first estate. On the second estate there would be a tax of approximately \$3,500. The total tax bill is less than \$8,000 as against a total bill of more than \$30,000 in the first two examples.

Summarizing the marital deduction, it qualifies if:

1. The property passes absolutely to the surviving spouse;
2. The property passed by operation of contract, such as joint ownership with right of survivorship;
3. The property passes by operation of law and the survivor receives an absolute interest in the property;
4. The property passes for life and a power of disposition of the remainder is provided for; or
5. Insurance proceeds pass to the surviving spouse absolutely or if they pass for life with a

power of disposition over the remainder.

If the interest passing to the surviving spouse can be expected to terminate, or will terminate upon the happening of a future event, such as death, remarriage, or any other event terminating the interest, the marital deduction will not be allowed.

With proper planning the marital deduction is of great benefit. However, if unwisely used it could be costly. For example, if husband and wife owned about the same amount of property, it would be foolish to use the marital deduction in planning the estates of each. An undue tax burden would fall upon the survivor's estate because this estate would be increased by the amount of property passing from the first property owner's death.

Another method of distribution used in estate planning is transfers during life. Lifetime gifts may be advisable where a person has accumulated great wealth, is in a high income tax bracket, and at death, will be in a high bracket for estate tax purposes. In such instances, lifetime gifts would serve to spread out the income into lower brackets, and the estate would be reduced for estate taxes. Since husbands and wives may join in making gift tax returns, a large amount of a person's estate may be given away tax-free. Each has a specific exemption of \$30,000, plus annual exclusions of \$3,000 for each donee, provided the gifts are of present interests.

The gifts may be made outright or in trust. Obviously, gifts in trust would be advantageous where the gifts are made to minors. The minor child must be able to get title to the property when he becomes twenty-one. In the event of death of the child, title must pass to the child's estate, or to whomever he appoints under his will, if the annual exclusion is to be allowed. Otherwise, the gift would be a future interest for which no exclusion is allowable.

Taxpayers looking for ways to reduce their income tax liability should examine Sections 671-678 of the Internal Revenue Code of 1954. Under these sections an irrevocable trust may be created for a period of more than ten years, and at the end of that period the property reverts to the grantor. During the period of the trust, the income is taxable to the beneficiary. The income is placed in lower tax brackets with resulting lower income tax liability or perhaps elimination of the tax entirely.

The primary reason for creating a short term trust, as these trusts are commonly called, is to shift the income away from the grantor. In order to achieve this result, the grantor cannot receive any of the income from the trust. The income from the trust cannot be used to discharge the grantor's



legal obligations of support of his wife and children; nor can the grantor exercise any administrative control over the income or principal. The property transferred must remain in trust for a period of more than ten years, or two years in the case of a charitable beneficiary.

In addition to an income tax saving scheme, the short term trust also offers gift and estate tax savings, as the value for gift tax and estate tax purposes is always something less than the property's fair market value.

The short term trust would appear to be advantageous for a professional or business man with minor children who owns a building for rental purposes or securities from which he does not need the income, and who is trying to reduce the tax on his income. He could transfer the property in trust for ten years and one day and let the income accumulate for the children for their education, or let them use it in setting themselves up in a business or a profession. By doing so, he has accomplished these things:

1. He has accumulated a fund for the children at low tax rates, or without any tax;
2. He has not completely parted with his property, and
3. He has saved himself income taxes.

In this time I have not covered the entire field of estate planning. It has become a very broad field—so broad in fact, that we now have estate planning teams consisting of the lawyer, the accountant, the trust officer, and the life underwriter. In the complicated estate, it will take the four of them to arrive at a workable solution to a taxpayer's problems.

If I have accomplished nothing else, I hope that I have shown you the importance of planning your estate.

Judge Thomas Mellon said in his autobiography: "It is more difficult to keep wealth when you have it than to accumulate it."

By taking time to plan your estate wisely, you retain and leave a greater net amount to loved ones.

NEXT ANNUAL MEETING

ADMIRAL SEMMES HOTEL

MOBILE

APRIL 21, 22, 23

**Three New Drugs Described in A. M. A. Journal—**Three promising new drugs for the treatment of circulatory system diseases were described in the July 11 Journal of the American Medical Association.

Two of the drugs are used in the treatment of high blood pressure, while the other is an anticoagulant, used to dissolve or prevent blood clots.

The anticoagulant is a new coumarin derivative with the tradename Liquamar. It is 10 to 25 times more active than bishydroxycoumarin, the parent substance, according to Drs. Herman Gold and George W. Lilley, Chester, Pa.

The drug has been intensively studied in Europe, but little has been done with it in the United States, the doctors said.

They gave Liquamar to 111 patients suffering from acute myocardial infarction, coronary insufficiency, acute phlebitis, and various other circulatory ailments with which blood clots are associated.

Slower clotting times of the blood were noted within 42 hours in 77 per cent of the patients. Only 3.6 per cent showed abnormal bleeding. The doctors concluded that Liquamar produces a satisfactory slowing of blood clotting during short-term treatment of blood-clotting disease states.

Guanethidine, a "new, potent antihypertensive drug," was discussed by Drs. Irvine H. Page and Harriet P. Dustan, Cleveland Clinic. Its chemical structure and mechanisms of action differ from those of other agents used in the treatment of high blood pressure.

Experimental work in dogs indicated that guanethidine has a prolonged action. Treatment of 18 patients with high blood pressure showed that the drug has a rapid, but prolonged action, with mild diarrhea as the only side effect so far noted.

The other antihypertensive drug—hydrochlorothiazide—was described by Drs. Victor Vertes and Mervyn Sopher, Mount Sinai Hospital, Cleveland.

It is a relative of chlorothiazide, which was originally used as a diuretic and was then found to have blood pressure lowering properties.

The new drug was given to 10 patients with high blood pressure of unknown cause. It was effective in lowering the blood pressure of all patients, was well tolerated by all, and produced no adverse side effects.

The action of the drug may result from its ability to produce sodium and chloride loss by the body, thus maintaining the patient on a "low-salt diet" in spite of general food intake, the doctors said. It has been shown that severe sodium restriction alone will lower blood pressure; however, it is impossible for a person to maintain a severe restriction outside the hospital. Such drugs as hydrochlorothiazide may help in this procedure.

**Food Allergy May Cause Urinary Symptoms—**Food allergy may be the cause of persistent or recurring urinary symptoms when there is little or no disease in the urinary tract, according to three Chicago area physicians.

Urinary tract allergy has been a recognized condition for nearly 40 years, but it is rarely reported and the diagnosis is often missed, they said in the July 11 Journal of the American Medical Association.

Frequently the condition may be misdiagnosed as cystitis, misplaced uterus, or pelvic inflammatory disease. Treatment of such conditions often gives partial relief, but the bladder symptoms usually continue.

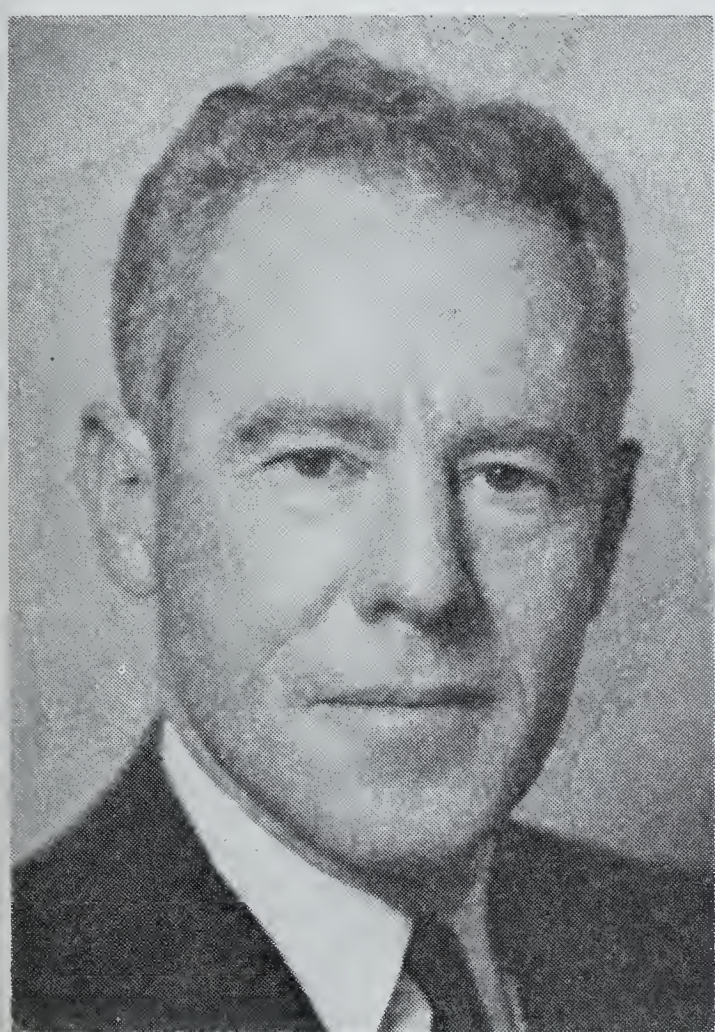




# around the state

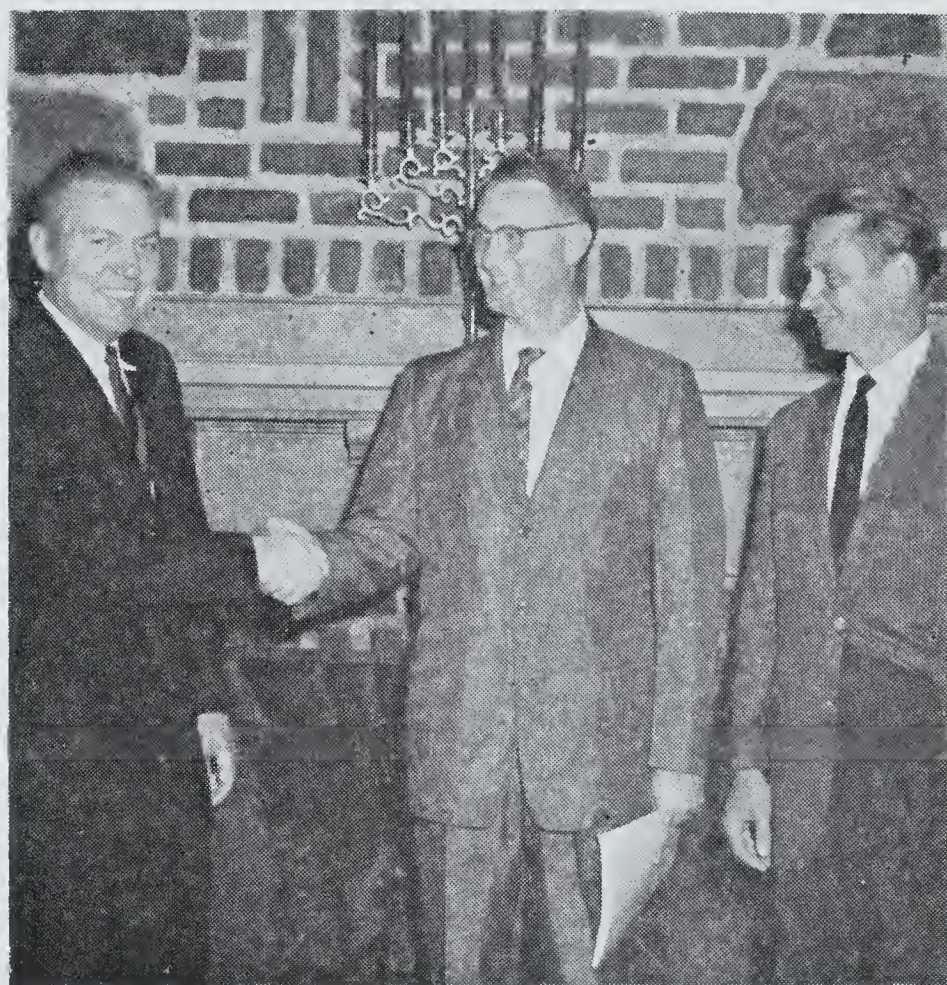


**AMA FIELD REPRESENTATIVE**—Dick Nelson, Chicago, Ill., (right) was welcomed to the third annual planning meeting by President William R. Carter. Mr. Nelson spoke on AMA's Aging Program.



**AAGP'S SEMINAR BANQUET SPEAKER**—Dr. James D. Murphy, Fort Worth, will deliver the banquet address at the Alabama Academy of General Practice's 19th Annual Postgraduate Seminar at the Tutwiler Hotel in Birmingham on August 19th. Scientific sessions of the seminar will be held at the Medical Center and they are open to all physicians.

**TO INTERNAL MEDICINE HELM**—Dr. H. Hamilton Hutchinson, Montgomery, (center) was installed as president of the Alabama Society of Internal Medicine at the Grand Hotel, Point Clear, on June 26th. He is being congratulated here by Past President W. H. Tucker of Mobile. Dr. W. M. Woodall, Jr. (right) was re-elected Secretary-Treasurer of the group.

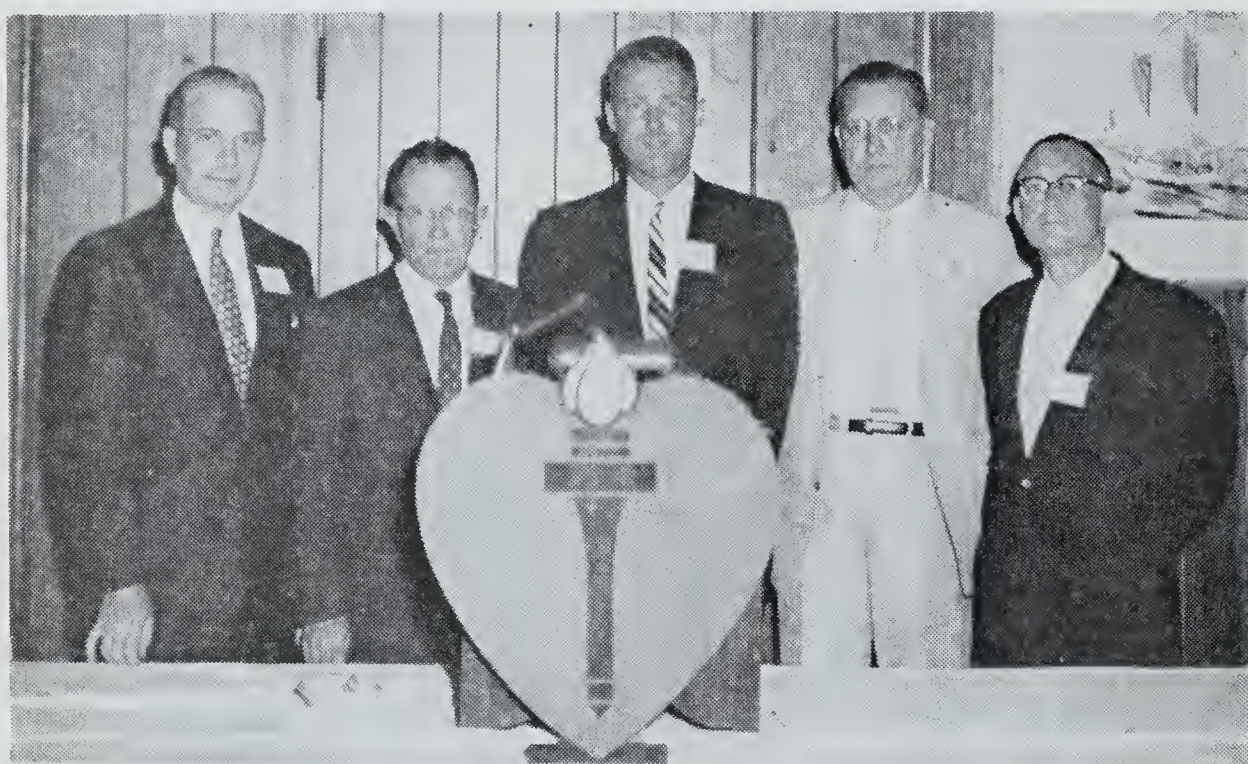




ALABAMA HEART ASSOCIATION—Elected Dr. W. B. Frommeyer, Jr., Birmingham, (right) president at its annual meeting at Point Clear on June 27th. Dr. Maxwell Moody, Jr., Tuscaloosa, (center) was named Chairman of the Board and Dr. D. O. Wright (left) was elected a board member.

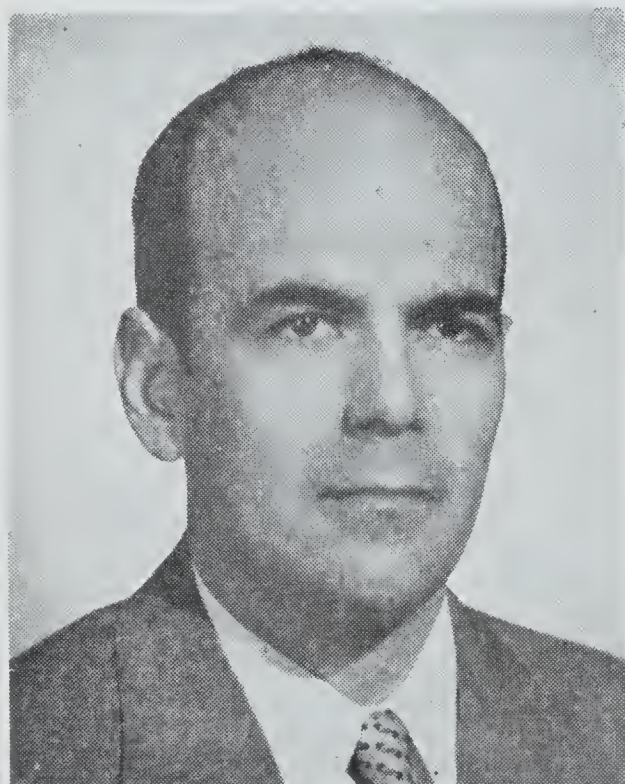


SCIENTIFIC SESSION SPEAKERS—Dr. J. Garber Galbraith, Medical College of Alabama; Dr. Edgar Hull, Louisiana State University Medical School; Dr. R. Bruce Logue, Emory University Medical School and Dr. Champ Lyons, Medical College of Alabama, spoke on various phases of cardiovascular diseases at the Heart Association's 8th Annual South Alabama Scientific Sessions at Point Clear.



PROGRAM SPEAKERS—Dr. Victor C. Vaughan III, (left) professor of Pediatrics, Medical College of Georgia; Dr. George W. Holcomb, Jr., (center) Clinical Assistant Professor of Surgery, Vanderbilt University, and Dr. Amos Christie, Professor of Pediatrics, Vanderbilt University, will address the Alabama Chapter of American Academy of Pediatrics at its annual meeting at the Grand Hotel, Point Clear, on September 12-13. The meeting is open to all physicians.

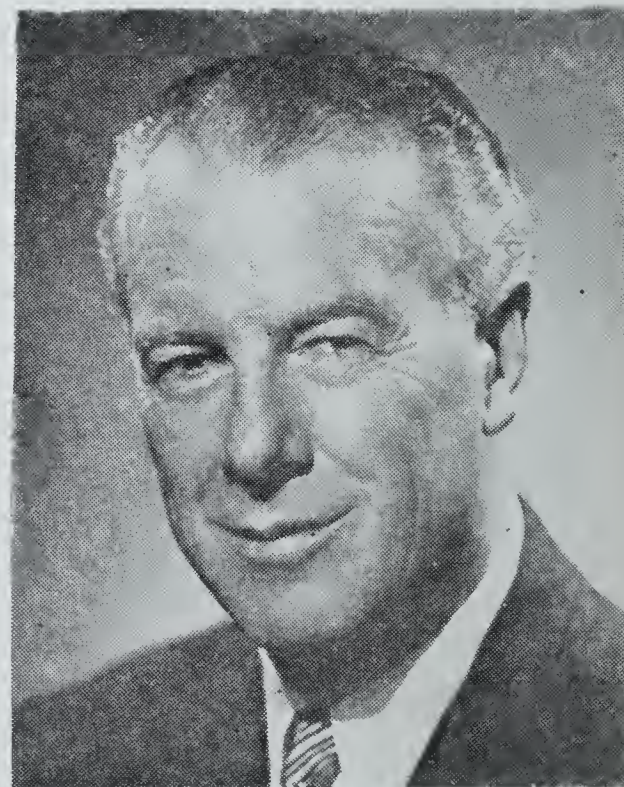
Dr. Vaughan



Dr. Holcomb



Dr. Christie







## MEDICAL CENTER NEWS



Newcomers at the Center—Dr. Buris R. Boshell (left), Dr. Basil I. Hirschowitz, Miss Juanita Mullins, and Dr.

Alexander Ulloa have been appointed to the faculty of the Medical College of Alabama.

### MEDICAL SCHOOL ANNOUNCES NEW FACULTY MEMBERS

Six new faculty members are joining the staffs of four departments of the Medical Center this summer.

Anatomy has one newcomer, anesthesiology, one, medicine, three, and psychiatry, one.

Dr. Earl G. Hamel, Jr., instructor in anatomy, came to the Center in mid-June from Iowa State University where he earned his Ph. D. degree. A native of Pensacola, Fla., he is married and has three children.

Dr. Elizabeth Dowdy of Attalla will begin work this month as assistant professor of anesthesiology. She has been a resident anesthesiologist at Presbyterian Hospital of Columbia University, New York. Dr. Dowdy is a graduate of the University of Alabama Medical College.

Dr. Buris R. Boshell, now assistant professor of medicine in the endocrinology and metabolism section, is also serving as clinical investigator for

the Veterans Administration Hospital. A graduate of the Harvard Medical School, he came here from a chief residency in medicine at Peter Bent Brigham Hospital in Boston. Dr. Boshell is from Phil Campbell, in Franklin County. He and his wife have one daughter.

Dr. Basil I. Hirschowitz, associate professor of medicine and director of the division of gastroenterology, was born in Bethal, South Africa. A graduate of Witwatersrand University Medical School in South Africa, he did postgraduate work in London. He was on the faculty of the University of Michigan Medical School and the Temple University Medical School in Philadelphia before coming to Birmingham. Dr. Hirschowitz is married.

Dr. Alexander Ulloa, a new instructor in medicine, rheumatology division, recently finished a fellowship with Dr. Howard L. Holley, associate professor of medicine. Dr. Ulloa is a graduate of the University of San Marcos Medical School in Lima, Peru. He is married and has one son.



Miss Juanita Mullins is the psychiatry department's new instructor in psychiatric social work. She comes to Birmingham from the University of Tennessee where she got her master's degree in social work after previous study at Tulane University, New Orleans, La., and Mississippi Southern College. She is from Roxie, Miss.

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VITAL NEEDS OF OPEN-HEART SURGERY  
OUTLINED BY DR. CHAMP LYONS

Open-heart surgery is far too complicated for the conventional operating-room complement.

Repair of defective human hearts requires a team of highly trained specialists—quite a large team. To be done effectively and with an acceptable mortality rate, the job also requires a cardiovascular center equipped with all the mechanical help our present technology can give the surgeon.

Meeting the "spiritual challenge of an expanded budget to meet the hospital costs of curable heart disease" is the great contribution which can be made by the people of this state, Dr. Champ Lyons told members of the Alabama Heart Association at its annual meeting June 27 at Point Clear.

Dr. Lyons, who is chairman of the Medical College's surgery department, spoke to the group at a dinner following afternoon sessions on cardiovascular diseases. Held at the Grand Hotel, the meeting was attended by more than 200 lay and professional members.

Three other eminent cardiologists addressed the Association during the afternoon. They were Dr. J. Garber Galbraith, professor of surgery and chairman of the division of neurosurgery here; Dr. Edgar Hull, professor of medicine and associate dean, Louisiana State University Medical School, New Orleans, La.; and Dr. Bruce Logue, professor of medicine, Emory University Medical School, Atlanta, Ga. Dr. Galbraith's subject was "Diagnosis and Treatment of Cerebral Aneurysms."

Dr. Lyons described the complexity of overcoming complications which often arise in repairing certain types of heart defects to show that the surgeon has more than enough to think about without also being responsible for perfusion and the many controls which must be maintained during such an operation.

Perfusion (automatic rerouting of blood around the heart so that heart action may be stopped during the operation) should be handled by a clinical physiologist or an anesthesiologist. Expert diagnosis is also vital to the successful heart operation, according to Dr. Lyons. "The diagnostic effort in this field is almost as complex as the surgical effort," he said.

Revenue from patients obviously cannot support the entire project, Dr. Lyons told Heart Association members. The University spent nine years and about half a million dollars to bring together a cardiovascular team with the diagnostic and surgical facilities it now has.

It costs around \$5000 to send a patient out of the state for one of these operations. The Medical Center can handle such a case for \$1500 to \$2000 because its team members are subsidized as teachers and carry research grants to make added equipment and facilities available. But most families are unable to meet even that reduced cost. They must have help.

Dr. Lyons summed up by saying, "A very wise man recently remarked that we live in an age of technologic precocity and spiritual adolescence." He expressed the hope that Alabamians will make the spiritual growth necessary to meet the challenge of vital needs in the field of open-heart surgery.

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OPEN HEART FILM PRODUCED  
AT UNIVERSITY HOSPITAL

An open-heart operation, performed with the help of the famous heart-lung machine, was recently filmed at the University Hospital for distribution to University of Alabama Alumni Chapters.

The 45-minute film, made by a 5-man team of Hollywood cameramen, will be shown in connection with the Five-Million-Dollar Drive presently being conducted by the University of Alabama.

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DR. KOCHAKIAN AWARDED  
\$55,000 CANCER GRANT

Dr. Charles D. Kochakian, professor of physiology at the Medical Center, has been awarded a grant of \$55,000 by the National Institutes of Health for extension of his cancer research project.

The grant from NIH, research division of the U. S. Public Health Service, also carries a commitment for an additional yearly amount for the succeeding two years.

The new grants bring to \$500,000 the total grants Dr. Kochakian's project has received in its 25-year history.

Dr. Kochakian is investigating the role male hormones play in regulation of tissue growth and the possible relation between abnormal arrangement of these hormones and the development of cancer.

His initial work was done at the University of Rochester. Before coming to the Medical Center





here two years ago he had been with the University of Oklahoma six years.

#### LOCAL TECHNOLOGISTS WIN AWARDS FOR PAPERS

Awards to four Alabama medical technologists were made for technical papers presented at the American Society of Medical Technologists convention in Phoenix, Ariz.

Each of the awards recognized outstanding work by the technologists and the collaborators with whom they prepared their presentations.

Ann M. Bretschneider, chief technologist in the laboratory of surgical pathology at the Medical Center, received the first place Scientific Products Foundation award in hematology and its second-place award in histology.

She presented a paper at the convention on "Histochemical Techniques in Examination of Blood and Bone Marrow." Her collaborators included Edmund A. Dowling, Dr. Fred Collier and Dr. William J. Jammack, all of the Medical College faculty.

Sara H. Crowson, instructor in medical technology at St. Vincent's, and Helene H. Taylor, assistant instructor, received the Scientific Products

Foundation's third place award in bacteriology for their paper on "Comparison of Bacterial Resistance to Antibiotics."

Frances D. Wideman of the St. Vincent School of Medical Technology received third place award of the Registry of the American Society of Clinical Pathologists for her paper on "Toxicology in a 200-Bed Hospital." Her collaborator was Chris T. Warren, biochemist at St. Vincent's.

#### CO-WINNERS OF THE STUART GRAVES AWARD

The annual Stuart Graves Pathology Award at the University of Alabama Medical College has two winners this year. They are Mrs. Sabra Wetzler Burton of Tuscaloosa and Ralph F. Coleman of Jacksonville.

Dr. Robert C. Berson, dean of the Medical College, said, in making the announcement, that this cash award is given each year to the sophomore student making the highest grade in general pathology. Mrs. Burton and Mr. Coleman tied for top score, as did the two students who won in 1956.

In all, the award has been given 12 times since it was established by Dr. Stuart Graves, a pathology professor and dean of the University of Alabama's two-year medical college from 1928 until 1945.

#### UNIVERSITY HOUSING AIDED BY CONGRESSIONAL ACT

Congress has approved housing bills containing a new provision which should help Birmingham in its urban renewal program in the Medical Center area.

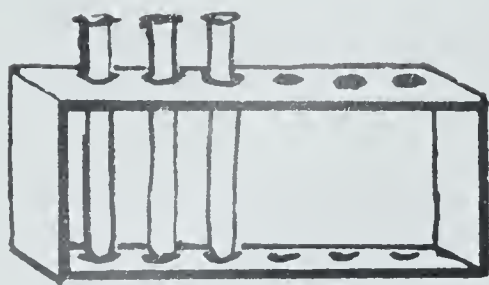
Under present housing law, local interests must put up one-fourth of the cost of a redevelopment program which receives federal aid, or match federal grants on the basis of one local dollar for each two federal dollars.

The new provision would permit improvements made by universities in or near urban renewal areas to be counted as local grants-in-aid. Thus the University's expenditures in clearing property and putting up new buildings could be counted as part of the local contribution.

According to state congressmen, this part of the bill might mean several million dollars in local contribution credit.

Another part of the new provision would waive in this case the present requirement that any predominantly residential area cleared under such a program must be mainly residential when redeveloped.





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.  
State Health Officer

### HOME SAFETY INVENTORY—1958

The National Safety Council conducted a nationwide survey during 1956 to find out "Who's doing what in home safety." This first home safety inventory revealed that there was widespread interest and good programming on the part of many official agencies, professional organizations and volunteer civic groups.

A second survey was conducted during 1958. This survey was designed not only to acquire information about home safety activities but also an effort was made to develop the second inventory into a tool to assist states and communities to stimulate the development, expansion and coordination of home accident programs in their respective areas and to establish standards and norms to facilitate the acceptance of responsibility for home accident prevention with official and voluntary agencies and business organizations.

The Division of Public Health Education, State Health Department, served as the center for the state-wide inventory in 1958. A community survey was conducted in Jefferson County, the county health department serving as center for that survey.

The National Safety Council has made an analysis of each state's inventory reports. For Alabama, the summary and recommendations relative to the State Health Department are quoted here.

#### SUMMARY

1. The State Health Department conducts and participates in home safety activities on an incidental basis, and its activities consist mainly of short-term, specific projects.

2. No intra-office home safety committee has been established.

3. The responsibility for home safety programming has not been centered in one particular division or section, nor have any staff members been specifically assigned this area. However, the Division of Health Education has attempted to keep county health departments currently informed as to sources of material relative to home safety.

4. No in-service training for staff, no research studies, no program planning assistance to other

state groups, nor any attempt to coordinate home safety programming in the state is indicated.

5. Press releases regarding home safety were reported, and consultant service to groups and agencies establishing poison control centers in the state was noted.

6. Neither the nurses' nor sanitarians' field report forms contain questions regarding home accident prevention.

7. Current records of state's home accident fatalities are maintained.

8. All phases of nursing home safety fall within the responsibility of the State Health Department.

9. Comparatively little home safety programming is reported by any of the local health departments. Only 6 of 32 departments reporting indicated any home safety activities at all.

#### RECOMMENDATIONS

1. Dependent upon approval of budget to include home accident prevention, this department should attempt to include home safety programming within its normal program following the suggestions included in the above summary.

The analysis also contained summaries and recommendations relative to other government agencies, voluntary and professional agencies, county home demonstration offices and business and industries. Analysis of the Jefferson County community survey has not been completed.

\* \* \*

Home safety is a relatively new field of public health work, but there is a growing belief that home accident prevention is a public health responsibility. This belief is reinforced by the annual home accident toll of 28,000 persons killed and more than four million injured seriously enough to be disabled at least one day. Alabama had at least 600 home accident fatalities in 1958. While no records of non-fatal home accidents are available, there is no doubt that there were thousands of such accidents. Initiation of any program aimed at reducing this toll would be facilitated by the availability of information acquired through the home safety inventory.



BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

May 1959

Examinations for diphtheria bacilli and Vincent's	41
Agglutination tests	561
Typhoid cultures (blood, feces and urine)	499
Brucella cultures	5
Examinations for malaria	29
Examinations for intestinal parasites	2,840
Darkfield examinations	1
Serologic tests for syphilis (blood and spinal fluid)	25,515
Examinations for gonococci	1,745
Examinations for tubercle bacilli	3,711
Examinations for Negri bodies (smears and animal inoculations)	243
Water examinations	2,246
Milk and dairy products examinations	4,290
Miscellaneous examinations	998
Total	42,881

Dothan Branch Laboratory report not received in time to be included in the May report.

✻ ✻ ✻

BUREAU OF PREVENTABLE DISEASES

W. H. Y. SMITH, M. D., Director

CURRENT MORBIDITY STATISTICS

1959

	Apr.	May	E.E.* May
Typhoid and paratyphoid	0	2	3
Undulant fever	2	0	1
Meningitis	8	9	12
Scarlet fever	252	192	34
Whooping cough	33	46	74
Diphtheria	2	0	4
Tetanus	8	3	3
Tuberculosis	181	229	200
Tularemia	0	0	1
Amebic dysentery	5	2	1
Malaria	0	0	1
Influenza	74	60	232
Smallpox	0	0	0
Measles	502	1105	1717
Poliomyelitis	0	1	7
Encephalitis	1	3	2
Chickenpox	177	263	239
Typhus fever	0	0	1
Mumps	63	59	270
Cancer	559	978	489
Pellagra	0	0	0
Pneumonia	248	218	197
Syphilis	163	138	207
Chancroid	4	4	8
Gonorrhea	251	325	368
Rabies—Human cases	0	0	0
Positive animal heads	24	7	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS  
AND COMPARATIVE DATA, MARCH 1959

Live Births, Maternal Deaths, Infant Deaths, Fetal Deaths, and Deaths by Cause	Number Registered During March 1959			Rates* (Annual Basis)		
	Total	White	Non- White	1959	1958	1957
Live births	6620	4133	2487	24.2	25.3	25.5
Deaths	2475	1523	952	9.0	10.4	8.9
Fetal deaths	139	57	82	20.6	20.2	22.3
Infant deaths—						
under one month	140	76	64	21.1	27.1	20.2
under one year	209	106	103	31.6	42.8	32.9
Maternal deaths	4	2	2	8.3	8.6	15.7
Cause of Death						
Tuberculosis, 001-019	31	13	18	11.3	12.9	9.7
Syphilis, 020-029	5	3	2	1.8	1.8	1.1
Dysentery, 045-048						
Diphtheria, 055					0.4	
Whooping cough, 056	3	2	1	1.1		
Meningococcal infections, 057					1.8	1.1
Poliomyelitis, 080, 081					0.7	
Measles, 085	1	1		0.4	0.4	1.5
Malignant neoplasms, 140-205	311	212	99	113.5	117.3	103.6
Diabetes mellitus, 260	32	21	11	11.7	17.7	12.3
Pellagra, 281	1		1	0.4	0.4	
Vascular lesions of central nervous system, 330-334	333	186	147	121.6	150.5	127.8
Rheumatic fever, 400-402	1		1	0.4		2.2
Diseases of the heart, 410-443	851	554	297	310.7	323.8	300.7
Hypertension with heart disease, 440-443	159	65	94	58.0	60.9	63.3
Diseases of the arteries, 450-456	52	31	21	19.0	28.4	20.5
Influenza, 480-483	15	7	8	5.5	25.4	5.2
Pneumonia, all forms, 490-493	78	35	43	28.5	46.5	31.3
Bronchitis, 500-502	4	2	2	1.5	3.0	1.5
Appendicitis, 550-553	1	1		0.4	0.4	1.5
Intestinal obstruction and hernia, 560, 561, 570	9	6	3	3.3	4.8	3.7
Gastro-enteritis and colitis, under 2, 571.0, 764	4	3	1	1.5	2.6	4.5
Cirrhosis of liver, 581	16	14	2	5.8	7.7	6.7
Diseases of pregnancy and childbirth, 640-689	4	2	2	8.3	8.6	15.7
Congenital malformations, 750-759	46	32	14	6.9	4.8	4.5
Immaturity at birth, 774-776	44	24	20	6.6	8.3	7.6
Accidents, total, 800-962	160	99	61	58.4	64.5	66.0
Motor vehicle accidents, 810-835, 960	63	44	19	23.0	24.7	30.6
All other defined causes	393	239	154	143.5	158.6	118.8
Ill-defined and unknown causes, 780-793, 795	80	36	44	29.2	39.8	38.0

Rates: Birth and death—per 1,000 population; Infant deaths—per 1,000 live births; Fetal deaths—per 1,000 deliveries; Maternal deaths—per 10,000 deliveries; Deaths from specified causes—per 100,000 population.

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## BOOK REVIEWS

**Now or Never.** The Promise of the Middle Years. By Smiley Blanton, M. D., with Arthur Gordon. Cloth. Price, \$4.95. Pp. 273. Prentice-Hall, Inc., Englewood Cliffs, N. J., 1959.

This is a heart-warming book written by the man who set up the original Religio-Psychiatric Clinic with The Reverend Norman Vincent Peale. At the time of its founding, this clinic was revolutionary in scope, but the intervening years have established both men as deep thinking and wise counselors. This present book is a product of Dr. Blanton's retiring years. He looks back upon forty years of counseling. His theme is that when people reach the middle ages and their youthful vitality has waned they are often struck with pressures of a psychiatric nature. These pressures are held in abeyance by youthful vitality. With this theme in mind, he reviews the problems of work, money, health, alcohol, sex, religion and aging. It is written in an easy, relaxed style with little technical terminology and can be heartily recommended for patients with psychologic and emotional problems.

E. Fred Campbell, M. D.

**Pediatric Neurology.** By Stanley S. Lamm, M. D., Clinical Professor of Pediatrics, State University of New York College of Medicine at New York City; Neurological Consultant, Pediatric Department, Kings County Hospital (State University Division), Brooklyn; formerly Instructor in Neurology, Long Island College of Medicine, Brooklyn; Director, Cerebral Palsy Clinic, Long Island College Hospital, Brooklyn. Cloth. Price, \$12.90. Pp. 495. Landsberger Medical Books, Inc., 51 E. 42nd Street, New York, 1959.

Pediatric Neurology by Stanley S. Lamm is an excellent book which I highly recommend to all pediatricians.

It is written basically in outline form, taking each disease and discussing etiology, diagnosis and treatment. There are twenty-one chapters, each covering broad subjects such as developmental defects, inborn errors of metabolism, cerebral palsy, birth injury, infections, convulsive disorders, tumors, trauma, vascular disorders, diseases of muscles and endocrine glands.

Of special merit are the chapters on mental growth and development, developmental defects, mental retardation and cerebral palsy.

The book is practical, giving pertinent facts without irrelevant details. It is interesting to read as well as being a good reference book.

Gertrude L. Crum, M. D.

**The Sedimentation Rate of Human Erythrocytes.** By Frank Wright, M. D., F. A. C. P., F. A. S. Cloth. Price, \$2.50. Pp. 43. Vantage Press, Inc., 120 W. 31st Street, New York 1, 1959.

The author uses the Linzemeier method for the sedimentation rate. He believes that the sedimentation rate is an energy exchange phenomenon and is an accurate measure of energy at work. When energy is lost there is a shortening of the sedimentation rate and when

energy is stored beyond the needs for the maintenance of the body there is an increase in the sedimentation rate. The factors associated with this shortening (more rapid) and lengthening (slower) of the rate are changes in the metabolic activity of the blood.

His relation of the sedimentation rate to the "fall-out" problem produced by atomic explosions is interesting and philosophical.

This book is recommended to all physicians as an interesting and provoking discussion of a simple laboratory test as related to atomic explosions. It is of more interest philosophically than technically.

Walker B. Sorrell, M. D.

**A Doctor Remembers.** By Edward H. Richardson, M. D., Associate Professor Emeritus of Gynecology, The Johns Hopkins University School of Medicine, Baltimore. Cloth. Price, \$3.95. Pp. 252. Vantage Press, New York, Washington and Hollywood, 1959.

This is a delightful book written by one of the foremost men in the field of gynecologic surgery for the past fifty years. This book reviews the author's entire life span beginning with his childhood and school days, carrying on through medical school and training on into practice, and finally into reflections of a philosophical nature. Dr. Richardson was one of the men who trained under the big four at Johns Hopkins' Medical School. One of the highlights of this book is his intimate recollection of the Famous Four: William H. Welch, William Osler, William S. Halstead and Howard A. Kelly. There is also a detailed and highly readable account of the difficulties encountered when the Johns Hopkins School staff was changed from one of clinical professors to fulltime professors. Dr. Richardson feels that this was a mistake and eloquently pleads his cause. At the end of the book during his philosophical recollections, he makes a most reasonable plea against the socialization of a system that he feels is extremely efficient under the free enterprise system. His plea against socialized medicine is well worth reading by all doctors and laymen. This is one of the most enjoyable books that has come across this reviewer's desk in several years. It is of particular interest to physicians engaged in the specialties of gynecology and urology.

E. Fred Campbell, M. D.

**Amino Acids and Peptids with Antimetabolic Activity.** Ciba Foundation Symposium. G. E. W. Wolstenholme, O. B. E., M. A., M. B., B. Ch., and Cecilia M. O'Connor, B. Sc., editors for the Foundation. Cloth. Price, \$8.75. Pp. 286. Little, Brown and Co., 34 Beacon Street, Boston, 1959.

This is another of the greater symposiums by the Ciba Foundation. It is a thorough coverage of the basic chemistry and theory concerning the antimetabolic activity of the amino acids and peptids against many malignant tumors. This will be of primary interest to the biochemist, and to the clinician with a biochemical background who is interested in research.

Walker B. Sorrell, M. D.



# THE JOURNAL

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## DIETETIC MANAGEMENT OF THE CHILD IN HEALTH AND ILLNESS

FREDERIC GERARD BURKE, M. D.

Washington, D. C.

Recent advances in nutrition investigation have opened the way to avenues of etiologic thought never before conceived, much less explored. This has been made possible by the creation of new tools with which the biochemist can now open the doors to the causation and pathogenetic factors of a number of diseases hitherto firmly locked in ignorance. The spectrum of these illnesses associated with abnormalities of nutrition is broad and includes mental besides somatic disorders.

The current age in medical progress has seen a dramatic reduction in morbidity and mortality by antibiotic, chemical and vaccinal research. Future investigation and gains in the knowledge of all diseases will be significant in the field of nutrition. We are what we are not only by virtue of the genes we inherit but also as the result of the food we eat, the fluids we drink, and the air we breathe. Examples of this progress in pediatrics are numerous and must include the dramatic drop in premature mortality and the virtual disappearance of exogenous rickets and scurvy. Indeed, today most medical students graduate without ever having seen a single case of these latter, once common clinical entities. The inborn errors of metabolism, including phenylketonuria, glycogen storage disease and galactosemia and others, have been elucidated. Galactosemia, for example, is an inborn error in the metabolism of galactose due to the congenital absence of a specific enzyme, P-gal-transferase. When this enzyme is absent, carbohydrate metabolism is arrested at the stage when galactose should be converted to glucose. This results in hypoglycemia and an elevation of the blood galactose to tissue toxic levels with galac-

tosuria, followed by vomiting, jaundice, hepatosplenomegaly, cataracts and mental retardation. This diagnosis can be made at or shortly after birth if two points are kept in mind. First is to be conscious of the entity and second is to test for galactose in the urine if an infant is vomiting, has jaundice, or is not thriving well. Many or all of these symptoms regress or disappear when galactose is eliminated from their diets. Phenylketonuria similarly characterizes phenylalanine oligophrenia and represents a congenital enzymatic deficiency in tyrosine metabolism. This entity, most commonly seen in blue-eyed blond infants, is frequently accompanied by eczema. A simple ferric chloride urine reduction test provides a valuable clue and can be diagnostically applied to the wet diaper. There is some evidence to indicate that improvement will result when phenylalanine-low diets are employed. The serum phenylalanine falls to normal levels and the phenyl derivatives disappear from the urine. Clinically, the response is more variable but successful avoidance of severe mental retardation appears to be directly proportional to early diagnosis and institution of diet restrictions.

For purposes of this discussion I would like to review the manner of assessment of growth, and comment on two aspects of the dietetic management of the child in illness and health, namely, overnutrition and undernutrition in the genetically sound child.

The growth of infants and children has been likened to the yield of a factory (Fig. I) which produces a product that must conform to a certain standard, at least within tolerable limits. Establishment of these limits, with cognizance of the variability of factors involved, is difficult but by detailed observation of the growth pattern of a large number of normal infants and children a number of graphic charts are available. By com-

Read before the Association in annual session, Birmingham, April 9, 1959.

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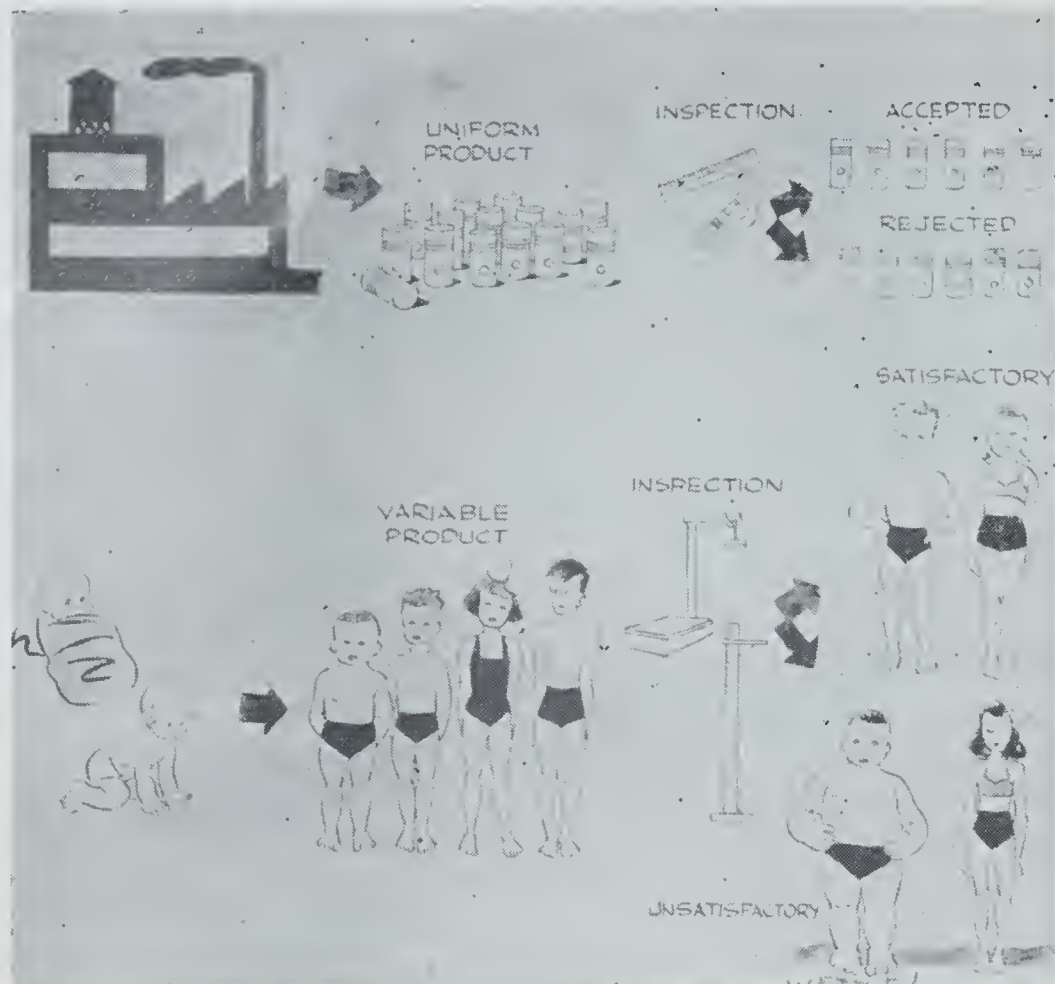


Fig. I: Children's growth has been likened to a machined product. Raw materials come from the factory as finished pistons. Subjected to engineering calibrating techniques, failure to conform to standards results in a certain percentage of rejections. By calibrating children at frequent intervals throughout their growth period, early evidence of variations may be found and oftentimes corrected. (By permission of NEA Service, Inc.)

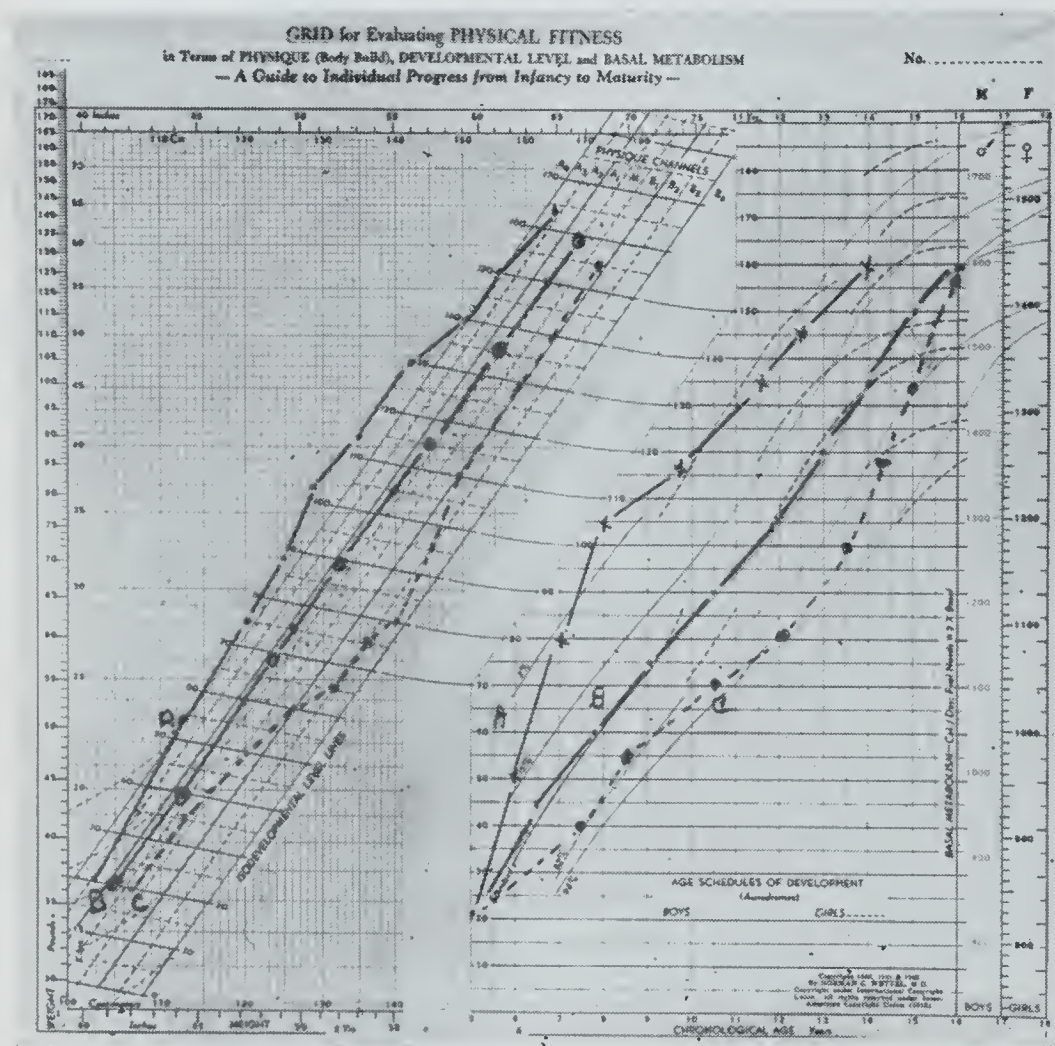


Fig. II: Three growth patterns superimposed on a single Wetzel grid. The A pattern shows an overweight child; the B, the pursuit of an ideal growth development channel; the C, a sickly asthmatic child who suffered growth failure before successful medical management controlled his illness, reflected by a deviation back to normal of growth pattern. The Wetzel grid provides visual, dramatic evidence at a glance of growth surge or failure. (By permission of NEA Service, Inc.)

paring an individual child against these standards, the growth pattern can be visualized in reference to the normal population and to the child's own pattern. Such grids are extremely useful in assessing the nutritional status of a child, particularly when undertaking a program of nutritive repair after recognition of arrested growth. The Wetzel grid, for example, is quite sensitive and may indicate the presence of a subtle disease state before the diagnosis is clinically apparent by the observation of a deviation from the expected growth channel (Fig. II).

Based on the recommendation of the Food and Nutrition Board of the National Research Council, some of the essential requirements are illustrated in this chart:

1. Calories (daily):  
Infancy (0-1 yr.): 45-55 cal./lb.  
Childhood: 1000 cal. basic + 100 cal./yr. of age.
2. Protein (daily):  
Infancy: 2 gm./lb. (1 3/4 oz. whole milk/lb.).  
Childhood: 1 gm./lb. until puberty, then 1 1/2 gm./lb.
3. Minerals (daily):  
Calcium—1-1.5 gm.  
Phosphorus—1.5 gm.  
Iron—16 mg.  
Iodine—trace.
4. Vitamins (daily):  
Vit. A—5000 I. U.  
Thiamin—1 mg.  
Riboflavin—2 mg.  
Nicotinic acid—10 mg.  
Ascorbic acid—60 mg.  
Vit. D—400-800 I. U.

The components of a sample diet to satisfy the basic nutritional growth needs of a child are shown in this sample diet:

- Milk—24-32 oz.
- Meat, poultry, fish—1 serving (5-6 per week).
- Liver—1 serving (1 x weekly).
- Eggs—1 daily (5-6 per week).
- Vegetables—2 or more servings.
- Fruits (1 fresh or citrus)—2 or more servings.
- Butter—2 tsp.
- Bread and cereal—to satisfy caloric need.
- Cod liver oil—1 tsp. or equivalent.
- Salt (iodized)—for seasoning.

However, such precise diets are seldom met in the average child's daily life, but on a month by month basis rather than day by day the average child manages to keep in positive balance. Since appetite is largely under esthetic influences during the middle childhood years, food must appeal and be made attractive. Peanut butter and jelly sandwiches, hot dogs, baloney, liverwurst, and ice cream are nutritionally rich and appealing. Slavish pursuit of a rigid routine involving one green vegetable, one yellow vegetable, etc., is psychologically unsound, unappealing, and likely to turn the family mealtime from a pleasant family communion to a nutritional wrangle with consequent indigestion for parents and child. Large families



seldom have appetite problems. The lonely, only child in a family constellation is not infrequently traumatized psychologically by such rigid approaches to eating and frequently effectively expresses these objections to such programs by promptly vomiting the obediently ingested foods.

The metabolic demands of the child obviously vary from infancy through childhood and adolescence, and while primary malnutrition is not so uncommon in childhood, it is rare in infancy except in the presence of a disease state. The food requirements for accelerated growth that characterize the forward surge of early life represent an avidity to be reckoned with that is not characteristic of later childhood and adult rates of

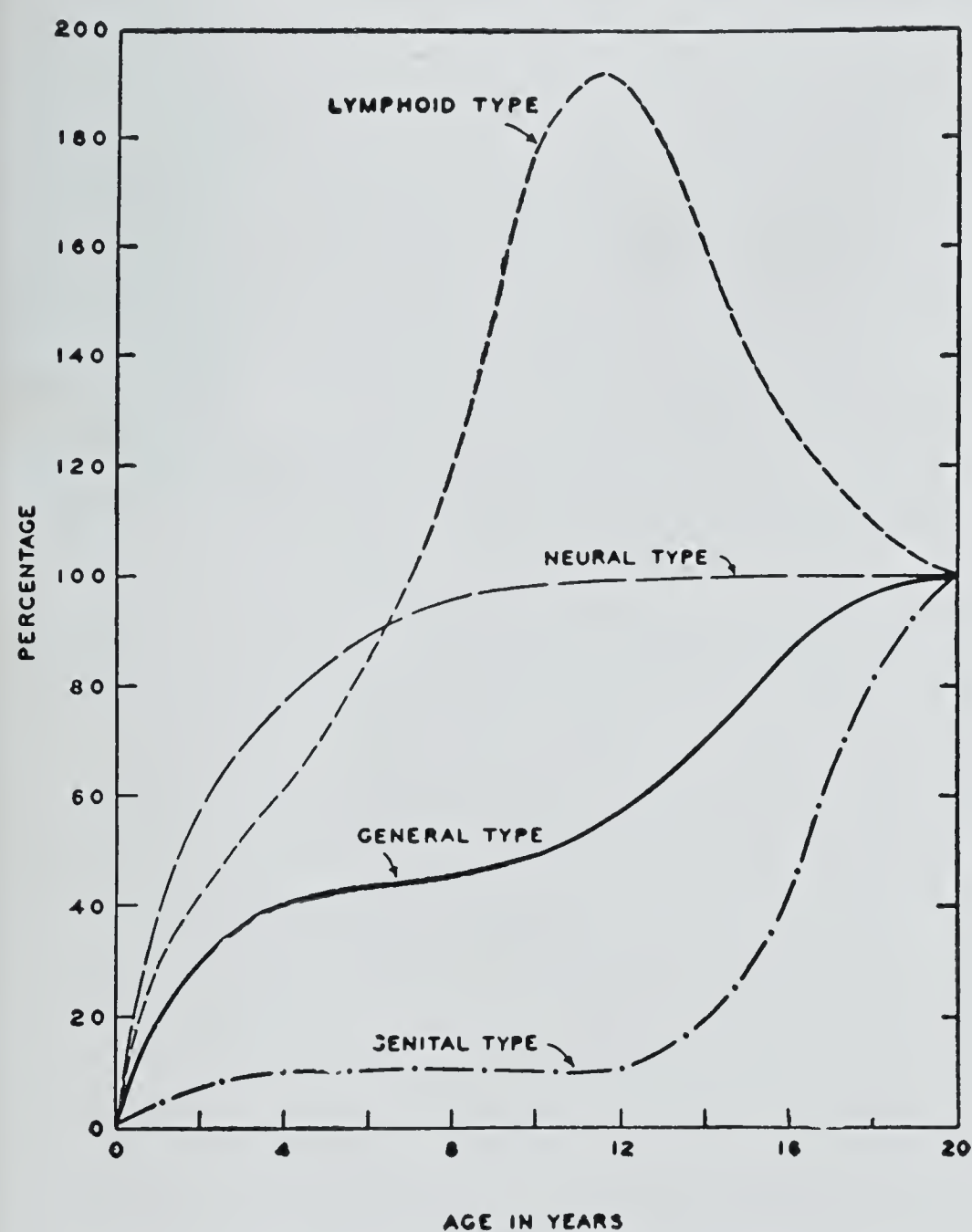


Fig. III: Growth Curves. The general body growth is not a lineal function but one characterized by two major accelerations in infancy and early childhood (0-4 yrs.) and at adolescence (11-18 yrs.). Nutritional demands to satisfy these requirements usually characterize the normal variations of appetite.

growth (Fig. III). The normal newborn doubles his birth weight by the 4-5 month and triples it by the 12th month. Thereafter the curve tends to plateau, only to spurt again at puberty. The protein intake demands of the body to satisfy its need for building materials are reflected in the normal child by increased appetite which, fortunately in most parts of this country, are met by complete diets of animal origin resulting in satiety.

Increasing concern is felt by pediatric nutrition-

ists today with the problem of overnutrition, over-vitaminization, supermineralization and under exercising. Whereas nutritional excesses have for some time been a problem in adults, the results of overfeeding in our children has recently received increasing attention. At least 10% of our children can be definitely classified as being overweight due to increased food intake.

Simple obesity is a generalized accumulation of fatty subcutaneous tissue, the principal causes of which are heredity, overeating, emotional or psychologic difficulties, and central nervous system disorders. Fundamentally, obesity is always the result of prolonged imbalance between energy intake and output, and the causes of this imbalance may be numerous. Whereas the metabolism of fat and carbohydrate is under hypothalamic control initiated through endocrine channels, glandular and endocrine abnormalities as a cause of obesity, such as Cushing's and Froehlich's syndrome, are extremely rare. Despite the voluminous literature on obesity, the simple fact is that fat children are fat because they eat too much. The explanation of *why* they eat too much is more complex. In one study (Mayer 1957) it was shown that, whereas 10% of children of parents of normal weights were obese, 50% were fat if one parent was overweight and 80% if both parents were obese. The feeding histories of these children usually indicated excessive and early introduction of starchy foods into their diets. The psychologic factors that promote excessive food intake are numerous and important both in the parents and the child but are frequently hard to evaluate. A high incidence of maternal overprotection associated with insecurity and immaturity is common in these mother-child relationships. This etiologic feature should be searched for diligently in undertaking the correction of this problem.

It is clear that numerous interrelated factors operate to cause obesity. Increased carbohydrate intake leads to increased absorption of glucose from the gut, stimulating more insulin production which, in turn, stimulates the hypothalamus to increase carbohydrate breakdown to fat. Genetic factors may operate through imbalance of the different hypothalamic centers to affect intermediate carbohydrate metabolism. Simple overeating and poor food habits, however, are the important triggers for this condition.

The two periods of childhood when this is most common is from birth to two years and from six to twelve. Preadolescent obesity of moderate degree can be considered physiologic in terms of reserve necessary for approaching accelerated growth needs. Marked obesity in this age group is difficult to treat unless full cooperation of the child and parents is obtained. This usually does



not occur until the child is well into adolescence and an increased metabolism utilizes the dormant deposits of fat.

In the infancy to two year group there are numerous data available for review that should give us cause for serious consideration of the disadvantages of food excesses. The concept that bigger babies are better babies remains unproved. Breast-fed babies are never fat and there is considerable evidence that they are healthier and have increased resistance to infection. Unfortunately, breast feeding in recent years has been down-rated and the current low incidence of breast feeding is a scandal. The cow has become our national foster mother and, with her, a rising incidence of overnutrition. For example, it has long been known that neonatal tetany, associated with the high phosphorus loads of cow's milk, is almost never seen in babies fed on breast. While there is some evidence to support the advantages of low fat, artificial cow's milk formulae for prematures, the increased nitrogen retention and supermineralization resulting in more rapid early weight gain in the average newborn do not constitute a satisfactory reason for the preference.

This trend is reinforced by an apparent competitive effort on the part of some physicians to get bigger babies faster by the earlier and earlier introduction of solid foods into the infant's diet. While there are individual exceptions, there appears to be no advantage to supplementing adequate milk diets with solid foods in the first 2-3 months.

The trend to overvitaminization is even more to be condemned since, in excess amounts, the fat soluble vitamins are clearly toxic and dangerous. Overdosage of vitamin D may result in cortical hyperostosis, hypertension, and renal failure, in addition to hypercalcemia, azotemia, albuminuria and nutritional arrest. These very symptoms have been noted in a large group of children in England and reported as a "hypercalcemia syndrome." It is interesting to note that this serious illness has appeared only since the war-initiated procedure of reinforcing proprietary milks and baby foods with amounts of vitamin D far in excess of their needs. While a causative relationship has not been fully established in all cases, improvement is usually noted in these babies when vitamin D is completely removed from their diets. With manufacturers of vitamin preparations in this country advertising as an advantage that their products contain 3-5 times the minimal recommended doses, it would appear wise to look for similar cases in this country. Excess vitamin K intake in young infants results in toxic manifestations characterized by increased serum bilirubin followed by an increased incidence of kernicterus; also hypervitaminosis A may

produce a toxicity resulting in cortical hyperostosis, liver enlargement, alopecia and painful subcutaneous swellings.

Continued detailed observations on growth and development are necessary in infants and children to evaluate more fully what constitutes optimal growth. The advances made in recent years in disease control, in sanitation, and in nutritional research are all important factors in the improved dietary outlook we enjoy today in this country. *Overnutrition* should be guarded against in our search for the provision of the best nutritive state for our children.

That basic nutritional needs are not met all over the world is too painfully clear and it is estimated that over half the world's population is suffering



Fig. IV: Kwashiorkor, malignant protein deficiency in a group of African children. Note edema, pot-belly, miserable expression, altered hair texture (second child from left) and dyspigmented hair (child on extreme left). (By permission World Health Organization.)

from malnutrition. Kwashiorkor (Fig. IV), so common in the economically undeveloped areas of the world, has created considerable world-wide interest in recent years and has been defined as a malignant protein-lack disease. This is an extreme example of malnutrition that is characterized by varying degrees of malignancy. Fundamentally, chronic epidemic starvation is due to lack of proteins of animal source. Mothers, malnourished during their pregnancy, give birth to infants who also suffer from malnutrition, manifested by indifference, apathy, fatigue, increased susceptibility to infection, and a high mortality.

Protein is most important to sustain normal growth and development. Furthermore, the type of protein relative to its completeness of amino acid pattern is a reflection of the efficiency of the protein to support normal growth. The quantity of protein ingested is of considerable importance, but quality is even more important and it is essential that the protein contain all the essential amino acids. Interrelationships between certain of these amino acids exist; for example, cystine can be used to spare methionine. That is, it is not necessary to ingest cystine as such in the diet if methionine is present since cystine can be synthe-



sized from methionine. The same relationship is true of tyrosine which is a phenylalanine sparer. There is a continuous turn over of body protein, the cellular protein being constantly broken down and new protein being rebuilt, in part from the amino acids from tissues. This process of tissue breakdown and regeneration results in an irreversible destruction of some of the amino acids, and the extent of destruction is indicated by the amount of urea in the urine. Those amino acids which are destroyed are the ones which must be supplied by dietary protein. If the amino acids are lacking in the diet, catabolism results in destruction of the amino acid supply of the body which is then reflected in a decrease in the quantity of actual tissue protein. The greater the magnitude of tissue proteins the greater the supply of tissue amino acids which can be used for energy and maintenance of essential function. Catabolism of amino acids is continuous and the amount of catabolism is highest when protein stores are highest and, conversely, it is lowest when the protein stores are at their lowest. A negative nitrogen balance therefore may be expected in a child whose pattern of protein intake is incomplete and thus fails to sustain the demands of the growing body or the repair needs following illness.

Proteins are usually classified nutritionally as complete, partially complete, and incomplete. A complete protein is one which contains the nine essential amino acids in proper proportion to each other, such as eggs, milk, fish, and some cereal grains. A complete protein supports normal growth. A partially incomplete protein supports growth but is needed in greater quantity. It contains all the essential amino acids but in improper proportion to each other. A good example of this is wheat which is deficient in lysine, containing 1.9% as compared to 7% in one of the complete protein foods. A larger amount of wheat protein is therefore needed to support the same amount of growth. An incomplete protein is one which is lacking in one or more of the essential amino acids, such as gelatin or the corn protein xenin, and animals fed either of these substances as a sole dietary protein soon die.

The effect of national types of diets with reference to longevity and stature is indicated in the following chart, and, independent of the genetic factors and effective sanitation, rates of worm infestation and infections, the probability of an inherent relationship exists between the protein intake and stature and longevity.

	Australia	U. S.	China	India
Protein N. (gms./day).....	18.1	15.7	11.1	9.8
Animal Protein %.....	69	57	8.5	16
Av. Height (cm.).....	172	170	158	161
Av. Weight (kg.).....	77.2	70	54.3	50
Life Expectancy.....	65	64	30	27

It is to be pointed out that, while the average daily protein intake between the United States and China is not remarkably different, the quality of the protein ingested differs greatly, and in those countries whose protein sources are mostly from animal origins, height, weight and longevity are increased. Conversely, in China and in India where vegetable protein constitutes the principal dietary source, these results are considerably lower. A review of the diets of peoples from nations where chronic malnutrition is common reveals a similar deficiency of animal protein. In many areas of India, China, Latin America, Africa and in some regions of the U. S. and Europe the chief source of protein is corn, beans and small amounts of wheat flour. Cooking by slow boiling further depletes the nutritive values of these foods which basically are deficient in amino acids, poor in fats, vegetables, fruits and vitamins. A typical history in such an area would reveal a poor maternal diet during pregnancy resulting in a shorter and lighter baby, not infrequently premature. For the first several months the nutritional status of the infant on breast milk in general is satisfactory but during the next few months, with failure of the breast supply, the demands of the average infant, still in the rapid phase of his projected growth curve, are not met. The deficient diet frequently culminates in diarrheal disease, resulting in further malnourishment and frequently death.

Fortunately, except in a few isolated areas in this country, this vast, dismal deficiency picture of severe malnutrition is seldom seen. Nationally aroused interests in nutritional advances have been well publicized and, with the backing of a substantial economy, severe primary malnutrition due to the lack of proper food is a relative rarity here. Secondary malnutrition, however, is not uncommon. Malnutrition may be classified as follows:

- Primary: 1) economic,  
2) ignorance,  
3) poor food habits,  
a) chemical factors,  
b) psychologic factors,  
c) social factors.

Inadequate amounts of proper foods are occasionally supplied by parents who, for economic or cultural reasons or through plain ignorance, provide a deficient diet. Probably more commonly seen, however, as a cause of primary malnutrition in children, and particularly adolescents, are poor food habits. The psychologic, social and chemical ingredients that make up a child's appetite have no counterpart in animal nutrition studies. Overindulged, insecure and rebellious children have their extensions in adolescence when the nutritional demands of the growth curve spurt are not met, producing negative nitrogen,



mineral and vitamin balances and resulting in rising rates of infection, and functional and anatomic defects during this period of life.

Secondary malnutrition is seen in:

1) *malabsorption* states such as biliary atresia, celiac disease, fibrocystic disease of the pancreas, sprue, following bowel resection, chronic diarrhea due to any cause, and in pyloric or esophageal stenosis.

2) *poor intake*—where the intake of food is not consistent with the increased demands of the body initiated by prolonged fever, increased tissue destruction, as seen in burns, hemorrhage, increased external temperatures and hyperthyroidism, then malnutrition may ensue.

3) *poor utilization*—associated with enzymatic defects such as glucose and galactose diabetes, thyroid and pituitary deficiencies or in improper cellular oxygenation as in chronic pulmonary or congenital heart diseases.

The importance of a positive nitrogen balance to the postoperative state is well established and failure to correct this situation results in an elevated incidence of infections, slow wound healing, prolonged recovery periods, and a high incidence of complications. While there are no noticeable effects on the body economy resulting from protein intake insufficiencies of short duration, if the intake in a child drops below 2 to 2.5 gm./kg. per day for very long, hypoproteinemia will result.  $\frac{3}{4}$  gm./kg./day should be given infants under one year, but only 1 gm./kg./day is required for adults.

These varying needs for protein reflect the necessity to meet the demands of growth and the rapid metabolism associated with the infant and child. It is essential that the basic cause for undernutrition be sought and eliminated when dealing with a growth failure problem. Even more important are the steps taken to avoid growth failure by proper supervision of children's diets to insure the adequacy of the protein intake. Under the circumstance of secondary malnutrition, those secondary causes of malnutrition associated with an interruption of the bowel, parenteral proteins must be employed, if complications including infection and delayed wound healing are to be avoided, by the use of blood and serum plasma. The success of any operative procedure is directly related to the state of the nitrogen balance of the child.

In summary, some of the nutritional needs of the infant and child necessary to meet growth demands have been briefly reviewed. The methods of assessing these growth demands have been touched upon. A side effect of an abundant economy which we enjoy in this country has been the production of overnutrition and overvitaminization which have their own inherent dangers. Malnutrition which is so common in over half of the

world due to the lack of proper food is seldom seen in urban communities. Malnutrition associated with the psychologic aspects of appetite and the abnormal metabolic demands of the disease state is not uncommon and requires intelligent management with particular reference to adequate protein intake if positive balances required in normal growth are to be met.

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**"Stop Pushing" Is Bad Advice to Executive.**—Telling a junior executive to "slow down or you'll have a heart attack" may be adding just one more reason for him to remain tense and anxious, a New Jersey psychiatrist has warned.

He is already suffering from an emotional—and perhaps psychosomatic—disorder, which "is itself a stress, and a disgrace in our society's thinking," according to Dr. Richard E. Gordon, Englewood, N. J.

Warning the executive of serious emotional illness, heart attacks or early death—all of which he has already seen in his friends and relatives—merely adds a new worry. The new worry causes further tension and produces new symptoms. Then the new symptoms add to the fears and a vicious cycle is under way.

The only way to help such persons is by clear explanation of how their symptoms and disorders came about and by practical suggestions about ways they can change their lives to meet the problems, Dr. Gordon wrote in the August 8 Journal of the American Medical Association.

It might even be possible to help these persons through organized classes—especially in rapidly growing suburban areas where the rate of emotional and psychosomatic disorders is highest, Dr. Gordon said.

Such classes could be patterned after those given to expectant mothers to help alleviate post-delivery emotional difficulties. Two 40-minute classroom sessions have been quite effective in helping women make necessary changes in their lives.

He based his suggestion on findings of a study comparing the rates of psychosomatic ailments in a rapidly growing suburb with that of more stable communities. The suburb had a much higher rate of psychosomatic ailments (ulcers, heart disease, and high blood pressure), probably because many of the residents are "upwardly mobile."

They are striving to rise socially and economically "out of the working class into subexecutive white-collar jobs and lesser managerial positions," Dr. Gordon said.

But they face a serious problem in their rise toward greater executive responsibility because they were not "born to the class" as were many of the men who are top executives.

The upwardly mobile person has to learn everything the hard way—by personal trial and success or error, Dr. Gordon said. He "may have a great deal to lose and knows it. If his decision backfires he may lose his job and his future and be thrown back to the insecurities of his past. He wears his responsibility heavily."

In addition, he has usually been sensitized by the stresses of his early life, which makes him more susceptible to psychosomatic ailments.

Psychosomatic illness and emotional disorder will disappear in the upwardly mobile person only when he feels he is secure and is able to relax. However, before that time comes, he may have undergone irreversible physical changes. To prevent this, he must learn to cope with his problems as he goes along. It is the physician's responsibility to teach him this, Dr. Gordon concluded.



STUDENT HEALTH AND THE STUDENT HEALTH SERVICE  
AT THE UNIVERSITY OF ALABAMA

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Almost all colleges and prep schools have a person or department with interest in student health and an arrangement for some degree of medical care of students. Its extent varies from school to school but there is a tendency gradually to increase the scope of these departments, particularly in the larger universities. This paper reports to the physicians of the state what we are doing in the Student Health Service at the University of Alabama.

There has been some plan for medical care of students at the University since it was first established in 1831. In his diary Dr. Manley indicates that Dr. James Somerville, an early practitioner in Tuscaloosa and a Trustee of the University from 1840 to 1842, my great-great-grandfather, was the first physician to care for sick students. Dr. Sellers in his history of the University tells of the early use as an infirmary of the building now known as the Gorgas Home and a number of other interesting things. One picks up other information as to what happened at various times but, on the whole, the details of what was done through the years are vague. The Student Health Service was set up in approximately its present form in 1947 when the old Druid City Hospital was acquired by the University and established as the college infirmary.

The mission of the Student Health Service has been expressed to include six elements which will be discussed individually:

It is our duty

1. To co-ordinate our activity with other University functions.
2. To assist in health education.
3. To assure that the University represents a healthy environment.
4. To evaluate the health of students.
5. To treat sick students, and, lastly,
6. To reassure students and their parents of the adequacy of these activities.

The necessity of correlating our activities with other University functions is listed first because we are a secondary element of a large organization and as such we must work smoothly as a part

of it. The student is at the University, primarily, to gain knowledge. We must fit our activities to his academic and other needs. We must work very closely with the Dean of Men and Dean of Women and we have a particularly satisfactorily working system in this regard at the University. We should and do also have a University administration conscious of the importance of health problems and sympathetic to our objectives.

It should be the duty of all physicians to assist in the health education of their patients. We consider it our responsibility that the college student, at this rather critical period of his life, acquire appropriate concepts and habits about his health. The American College Health Association has for many years recommended courses in personal health and hygiene for all students but the larger number of colleges have no such required instruction. Certain courses are available and are required in some curricula at the University of Alabama. These are not a function of the Student Health Service and no such course is required of all students. We attempt health education of all students we can reach with a sporadic medical column in the *Crimson-White*, the student weekly newspaper. We try to explain as much medicine as we can across our desks and in the hospital and we have given occasional talks on personal health to freshman groups and to meetings of residence hall counselors. We have neither recommended nor undertaken anything more formal or comprehensive. It is probable that we should.

It is a part of our mission to assure that the University represents a healthful environment. The Tuscaloosa County Health Department under Dr. Ralph McBurney makes work in environmental sanitation easier than it might be otherwise. We call to his attention the off-campus restaurant from which we suspect acute "food poisoning" or diarrhea arises or, if it is an on-campus dining room, we call it to the attention of University authority. There is no medical observation of dormitories, toilet rooms, swimming pools, etc. We should do more in this field and I have asked for eventual funds for a full-time environmental sanitarian who would work closely with the County Health Department.

In addition to sanitary matters that come to our attention, we can and do call attention to situations creating undesirable emotional stress in an individual or group, or situations leading to unusual fatigue. There has been occasion to call attention to traumatic injury hazards. These are

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Read before the Association in annual session, Birmingham, April 9, 1959.

The author is Director of the Student Health Service, and Professor of Clinical Medicine, University of Alabama.



opportunities for environmental control that are not available to state or county health agencies.

The next listed objective of the Student Health Service is evaluation of the health of students. Prior to 1956 there was a hurried mass physical examination of all new ROTC students and of some new women students during registration week. This was done with the much appreciated help of resident physicians from the University Hospital in Birmingham. However, the rush and pressure and these excellent physicians' unfamiliarity with student health problems were such that it left much to be desired. Since the fall of 1956 we have required each new student to present a satisfactorily completed Entrance Medical Record done by the physician of his choice before he comes to the University. These reports are reviewed before registration and it is much more satisfactory.

This examination assures the University that prospective new students are in such a state of health that they can undertake the contemplated academic load without physical or emotional hazard to themselves or to fellow students. On occasions the medical record leads us to call the family's attention to the strenuous nature of University activity. Application for admission has usually been withdrawn on their own doctor's advice in these cases and these students were spared the expense and ignominy of probable failure.

The Entrance Medical Record also serves as the physical examination required for Basic ROTC or Physical Education and for participation in intramural sports and as a medical background for restricting a student's courses or for giving him special privileges. The student's regular physician can best give us medical reason for or assure us that there is no necessity of such restriction of activity. Because some students do not want to take the required courses in ROTC or Women's Physical Education, and because some of our colleagues, sympathetic to the students' desires, emphasize the importance of relatively minor disorders, it has become necessary for us to confirm personally the existence of disqualifying or restricting defects and act on our own concepts of the probability of harm. We may act contrary to the recommendations of the examining physician at times but never without fairly obvious justification. Some physicians have afterwards indicated that their recommendation which I had not followed was due to pressure from the patient or the family.

A third use of the Entrance Medical Record is that it alerts the University physicians and the personnel deans to the existence of disease that we should know about, such as epilepsy, diabetes, emotional instability, and others. It is well for

these people to have this information about students although it may seem to have little academic significance.

An incidental dividend from the Entrance Medical Record is that defects have been found at this examination and treated by the family physician before the student comes to school. A number get glasses for the first time. On the basis of diagnoses made first on these examinations, a few students have acquired hearing aids, several have had hernias repaired, a number have been put on anti-anemic therapy, etc. A very large number have apparently never had tetanus toxoid and a few have never had smallpox vaccination. These two are required.

There is no systematic reevaluation. Examination is undertaken as a part of the treatment of illness and it is sometimes done at the request of personnel or academic departments to see if there are medical reasons for unsuitable behavior or poor academic performance. The question whether routine periodic reevaluation of the health of all students is desirable requires much thought as does the degree to which it should be carried and the form it should take before funds are sought for its accomplishment. It has a current low priority. If done, it will probably consist in a questionnaire and a battery of screening tests with examination only of selected individuals.

Our mission to treat sick students is the one that everybody thinks he understands and most people look on as our sole objective. Before discussing what we do, I want to mention a point of ethics involved. I am familiar with and agree with the ethics of practice as expressed by the American Medical Association. It has gravely concerned me that the Student Health Service is without question a medical care plan involving a "third party" and allowing only very limited choice of physicians. However, in its January 17, 1959 report in a special edition of the Journal of the American Medical Association, the Commission on Medical Care Plans had a separate section on Student Health Services. It reported in part: ". . . The Committee wishes to point out that the student-physician relationship under a student health service is transient and temporary. The personal physician is not entirely or permanently replaced." Further: "Although some . . . utilize closed panels and involve compulsory participation by the student, the peculiar circumstances surrounding such care have resulted in the acceptance of many of these plans by local medical societies. . . ." And finally: "The Committee believes that the proper relationship between the medical profession and student health services should be one comprising study and participation, encouragement and understanding, and consultation and advice."



I have been very conscious of this borderline status. I have attempted to let our Student Health Service act as agent for the private physicians of the students, whenever this is at all reasonable, following the therapeutic recommendations of the private physician even though I may disagree with their scientific propriety. The sole exception to this has been in relation to restriction of activity as discussed awhile ago. Under these circumstances I feel that our practice in the Student Health Service has been within the ethical limits expressed by the A. M. A. It is my intent that it remain so.

Now, as to what we do have and do: The staff consists of two full time physicians and one part time and we will add a third full time physician on September first. We have a panel of six consultants who can be called or to whom students can be sent. There are eight full time and seven half time nurses. There are appropriate properly trained x-ray and laboratory technicians, a dietician and the other necessary personnel. We operate a 45-bed hospital with diet kitchen and diagnostic x-ray and laboratory facilities. We are not prepared for major surgery, nor for major psychiatric care, but we can handle most of the other things that might arise. Although our average bed occupancy is quite low, we maintain this size hospital because a large number of beds must remain available for outbreaks of food poisoning, influenza, measles, etc. A student, living in dormitory, fraternity or sorority house, or in a rooming house, often eating somewhere else, cannot get the usual home care of these minor confining illnesses and infirmary facilities must be available for him. A general community hospital does not habitually admit minor illness and usually wouldn't have the beds available for a sudden influx of patients with these diseases. While there have been recent years when our infirmary has had an average daily census of only six patients, the actual census is quite variable. It was twice necessary during the influenza epidemic in 1957-58 to expand to 65 beds and once all 65 beds were occupied. During exam times and summer school we may go several days with no in-patients at all. During the peak of rubella last spring, we had 29 bed patients. You can visualize some of the problems encountered, including the disciplinary problems of the simultaneous separate isolation of measles and mumps in each sex from the non-contagious patients. The problems are not all clinical.

A much busier activity than the hospital is the outpatient clinic where students are treated on an ambulatory basis or where they are seen and sent to the hospital. At least one doctor is present seeing patients from 7:30 in the morning until 5:00 in the afternoon and one or another of us is on-

call for emergencies at other times. A nurse is there twenty-four hours a day. There will be 50 to 100 or more outpatient visits on week days during the two winter semesters and 15,000 or more per year.

These students have a very wide variety of disorders in shades of severity from the very trivial to the very grave. The types of disorders seen cover the whole spectrum of disease. Minor upper respiratory disease, trauma, acute infection, digestive disturbance, and various types of psychosomatic response are probably the most frequent groups, not necessarily in that order. However, we see pneumonia, psychoses, kidney stones, acute appendicitis, major injuries, coma from insulin reaction, and other things requiring more specific immediate attention. Diabetics require regulation and there are asthmatics and epileptics. Our staff picked up this year an osteogenic sarcoma and a brain tumor. Both of these students are now back in school after surgery done elsewhere. These things are rare, of course, but we try to keep in mind that any one of the preponderant number of apparently minor disorders can be the incipient phase of a major disease.

There are two differences from other types of practice that are of interest:

In normal practice it is always desirable to get a patient back to work as soon as possible and lost income from lost time is certainly serious. Loss of a few days from his classes often gets the college student so far behind that he must withdraw from school and lose the whole semester. This is particularly serious for the student of mediocre ability or limited finances. We can excuse his class absences easily enough but there is no way to make up the lost opportunity of learning. To avoid excessive class absence we will often let a student go to class from and return to the hospital before he is well enough to resume full activity. This possibility makes it undesirable for a parent to take the mildly sick student home as he will miss less time from class if he stays at the University. This is sometimes not understood and it is hard to recommend that a mother not take her child home to be cared for by the excellent physician at home whose skill she knows. The second point of difference is thus that parental concern for students away from home is greater than usual, as they are not at hand to observe severity and progress for themselves. There is no right answer whether to call the parents and tell of an illness that is really of no consequence and thus alarm them or to fail to call and experience their censure at "hiding information from them."

I have often been asked to what extent our practice consists in students trying to get out of some



duty. There are some, of course, but if there are many of them I do not recognize it. Most students are well motivated.

I have also been asked to what extent examinations precipitate nervous illness. University attendance is an intense experience. Examinations do constitute stress to which there is psychosomatic response. Similarly, fraternity and sorority rushing and initiation, and other social and non-social extracurricular activities that are all properly a part of the college experience may each constitute stress. The students adversely affected by these things are a small proportion. Most take it in their stride and have no emotional ill effects despite how much they do, how little they sleep, and how queerly they eat. This continually astounds me.

Although care at the Student Health Service is free, an indeterminate percentage of sick students go to our colleagues in practice in Tuscaloosa for various reasons. We do not object nor do the personnel deans. It is disturbing to us only when they go because they or someone else may not have been satisfied by our care or when the manner of handling of the case is not consistent with the students' academic objective.

The last item of our mission is to assure students and their parents of the adequacy of these measures. This is difficult to do within medical ethics but since it does not alter our personal incomes, perhaps we can legitimately seek publicity to reassure parents as to the quality of medicine we practice. We have done this and I hope it has remained within the bounds of good taste. This appearance, at my own request, had this in view.

## THERAPEUTIC DIVIDENDS OF HYSTEROSALPINGOGRAPHY

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and

N. C. DENTON, M. D.

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Hysterosalpingography, or, as some prefer to call it, uterotubography, is well established as a most useful tool in the investigation of human sterility. Although several papers have appeared indicating that pregnancy occurs after this procedure in a considerable number of cases, the value of the examination as a therapeutic procedure has not been fully appreciated, judging by the paucity of papers in radiologic literature.

We should like to report a small series of cases to reemphasize the therapeutic dividends which can be expected from this procedure.

### TECHNIQUE

The procedure has been well described by Robbins and Shapiro in *Diagnostic Roentgenology* by Golden. Each examiner has apparently modified the basic technique to suit his own experience. We began doing hysterosalpingograms with the Jarcho Pressometer, but have long since discarded the manometer and pressure chamber. We still prefer the self retaining cannula, which is furnished with this instrument, to the Kaplan or any other we have seen.

We prefer to do hysterosalpingograms on the 9th or 10th day after the first day of the menstrual period. All of the examinations have been performed as an office procedure. The patient takes no medication and experiences little discomfort

during the examination. She is placed in the lithotomy position on the x-ray table with her knees in crutches. A bivalve fiber speculum is inserted and the cervix is painted with a suitable antiseptic. The cervical os is then sounded with a probe and the anterior lip of the cervix grasped with a tenaculum. This is the most painful part of the examination. The self retaining cannula is then inserted and clipped to the tenaculum so that a tight seal is effected. She is then told that the uterus is going to be distended and that she should develop a menstrual type of cramp. She is instructed not to be "a stoic" but to tell you when the pain becomes uncomfortable. A 10 cc. syringe filled with Iodochlorol is then attached to the cannula and the oil injected slowly under only slight pressure until the patient becomes uncomfortable or until approximately 4 cc. have been injected. A radiograph is then exposed and developed while gentle pressure is being maintained by the stop-cock on the cannula. Depending on the findings, additional oil may be injected under slightly greater pressure and the film repeated. If no oil has leaked out of the tubes in twenty-minutes of sustained pressure, of the order of 50 mm. of mercury, the examination is terminated. We have never used 200 to 300 mm. of mercury pressure as reported by some authors. Many writers have discontinued the twenty-four hour film, but we have seen free oil in the pelvis on this film in many cases when it was not possible

Read before the annual meeting of the Alabama Radiological Society, Birmingham, April 8, 1959.



to be certain as to whether the tubes were actually patent during the procedure, so, in all doubtful cases, we still take this film.

The procedure described is more time consuming than the usual examination. Apparently it is quite safe since we have had practically no complications, at the most a vague discomfort in one side of the pelvis for one or two days. The single exception was a patient with a pelvic inflammatory disease which flared up following the procedure and required penicillin therapy.

We have used Iodochlorol as the contrast material in all but two or three of the cases which were done with more liquid media. The viscosity of Iodochlorol is, in our opinion, best suited for this procedure and we have not seen a single granuloma develop in our series. We have not used fluoroscopy in any of the examinations.

After checking our diagnostic unit with a pressed wood phantom, we estimate our patients received, depending on their size, from 17 to 28 milliroentgens to the ovaries for each roentgenogram, or of the order of one to 1.5 roentgens per examination.

#### MATERIAL

The selection of the patients for this examination was left up to the gynecologist (Dr. Denton). The present series consists of all of the hysterosalpingograms which I (Dr. White) have performed for him. All patients had a routine physical examination, including a pelvic examination, and none had a sterility history of less than two years. A semen evaluation was obtained on the husband in each case and an ovulation chart was kept by most of the patients. No medication was prescribed for sterility in any of the successful pregnancies here reported.

When it became apparent that a significant number of pregnancies occurred following this procedure, we began to repeat the examination once after 3-6 months if pregnancy had not ensued. The gynecologist is so pleased with the results that he has completely stopped doing CO<sub>2</sub> insufflations. Hysterosalpingography is the first of his definitive studies. Thyroid evaluation, hormone studies, and the remainder of the conventional sterility work-up are not undertaken unless the tubes are patent and pregnancy has not ensued for 6 months after this examination.

#### RESULTS

A total of 88 examinations was performed on sixty-four patients. Sixteen pregnancies occurred after a single hysterosalpingogram and eight pregnancies occurred after a second examination, which gives a combined total of thirty-seven per cent successful pregnancies. The average age of these women was 28 years, the youngest being 21 and the oldest 36. The average sterility history

was five and one-half years, the shortest being two years and the longest fifteen years. Of the forty women who did not have a successful pregnancy none is known to have had a tubal pregnancy or an abortion. The high incidence of these complications in some series may be related to the higher pressures used by some investigators.

On several occasions the patient became pregnant following hysterosalpingography, even when the examination failed to prove definite tubal patency, using spreading of the oil over the pelvic viscera as a criterion. This has occurred in the cases following a second hysterosalpingogram, as well as in those following a single examination. We have not seen pregnancy follow this procedure unless oil could be demonstrated out to the fimbria at least.

As previously stated, no granulomas were detected following any of the examinations. The only granuloma we have seen was discovered three months after a hysterosalpingogram by another operator which was reported as unsatisfactory. She was referred to us for a hysterosalpingogram, which demonstrated that the left tube was open. She gave a history of sterility for four years following an abortion. She delivered a normal baby eleven months after the successful hysterosalpingogram. The granuloma was still present when she was last examined but was steadily decreasing in size.

Twenty-three of the 24 children resulting from these pregnancies have been followed by one of three local pediatricians and we are told that they are normal and without demonstrable defects. One pregnancy resulted in a post-mature infant which lived only half an hour. An autopsy disclosed only fetal atelectasis. This mother had a sterility history of eleven years and has not become pregnant in the two years since her delivery.

In view of the present thought that all ionizing radiation produces mutations, it is felt that the children conceived within months after a pelvic examination delivering 1 to 1.5 roentgens to the ovaries would form a very interesting series, particularly if the pregnancies resulting from examinations in all of the clinics over the country could be combined into a statistical study.

#### DISCUSSION

If there is anything new in this paper it is the concept of a sustained minimum pressure rather than the use of 200 millimeters of mercury or, in some cases, 300 as indicated by some writers. This may account for the fact that we have not had a single granuloma develop following our studies. It is wondered if bleeding and intravasation of the opaque oil is not a big factor in granuloma produc-



tion. In any case it is felt that the sustained low pressures may have a more beneficial therapeutic effect, and it is felt that it is easier to accomplish this with Iodochlorol than with the more fluid or the more viscous media.

Another question which has been discussed in recent papers is the twenty-four hour film. This would appear to add little, if aqueous media are used, but with the viscous oil we have seen a number of cases in which the oil appeared to be confined in a small sac near the fimbria, only to see it spread over the pelvis on the 24-hour film. On the other hand, we have seen it remain in position without any spreading, indicating that there was no communication to the abdominal cavity.

#### SUMMARY

Hysterosalpingography is a simple and safe procedure which has gained widespread acceptance in the investigation of sterility. That there is a

therapeutic benefit, more rewarding than tubal plastic surgery, is now becoming recognized. The large number of babies conceived following this procedure in various clinics over the country should produce a valuable series for evaluating the genetic effects of small doses of radiation.

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## CRANIOCLEIDODYSTOSIS

### A CASE REPORT

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Cranioleidodysostosis is a hereditary disease characterized by deficient formation of clavicles and imperfect ossification of the fontanels. Many other anatomic irregularities are noted, such as brachycephalia, irregularities in dentition, and structural abnormalities of the vertebrae, sacrum, pelvis, femora and scapulae, metacarpals, metatarsals and phalanges.

Fairbanks states that the first clavicular defect was reported by Martin in 1765. Scheuthauer in 1871, and Marie and Saitone in 1898, named the condition hereditary cranioleidodysostosis. The condition continued to be known as cranioleido-

dysostosis until 1926 when Rhinehart coined the term "mutational dysostosis." The most valuable recent comprehensive review of the subject was done by Soule in 1946 in which he reported that 326 cases appeared in world literature from 1929 to March 1944. Soule supports the alternative title, "mutational dysostosis," but it is our opinion that the term cranioleidodysostosis is somewhat more descriptive and colorful.

*Hereditary Influence:* There seems to be no doubt that there is a strong hereditary influence in this disease. Of the 326 cases reported by Soule, 198 were familial. In this series both sexes appear to be equally affected. The patient may present himself at any age and cases have been reported as early as one month and as old as sixty years. Most of the cases, however, are picked up because of delayed secondary dentition, at which time further examination and x-rays are taken and additional stigmata of the disease are noted.

*Clinical Signs:* Patients with cranioleidodysostosis evidently secondary to the mild deformities have a family resemblance. The patients are generally somewhat small in stature, with large broad heads, weak recessive faces, long sloping shoulders and necks, together with the ability to move the shoulders freely because of the partial or total absence of the clavicles.

*Teeth:* Dental abnormalities are second in frequency to clavicular abnormalities. Deciduous dentition is usually normal but permanent teeth



Fig. 1: Width of symphyses greater than normal. Pubes are less dense than rest of pelvis. Mild coxa vara is present.





Fig. 2: Posterior view showing prominent scapulae at apex.



Fig. 3: Posterior view shows extreme mobility of clavicles.

are slow to appear and some remain unerupted until late life. Occasionally, in an older person, the fitting of artificial dentures may stimulate eruption of teeth.

*Upper Extremities:* The most common lesion in craniocleidodysostosis is that of a partial or complete absence of one or both clavicles. The small residual stumps may appear either medially or laterally, to which the sternomastoid and pectoralis muscles may be attached. Fibrous cords can intervene in the place of bone. The scapulae are usually small and lie somewhat more dorsally and, because of the absent clavicle, appear to be more laterally placed than usual. The anomalies noted by Soule in the humerus, ulna and radius were that the shafts of the bones might be somewhat shorter than average. An extra epiphysis at the base of the second metacarpal may occur and there are occasional extra epiphyses at the distal ends of one or more of the phalanges. The second metacarpal is characteristically longer than the other metacarpals. The phalanges are apt to be shorter and wider and the cortex thicker than ordi-

nary bone. The terminal phalanges appear to be pointed and lack the usual expanding ungual tuff. Occasionally all phalanges of the little finger itself appear to be abnormally short.

*Deformities of the Trunk:* Soule has reported spinal abnormalities consisting of abnormal curv-

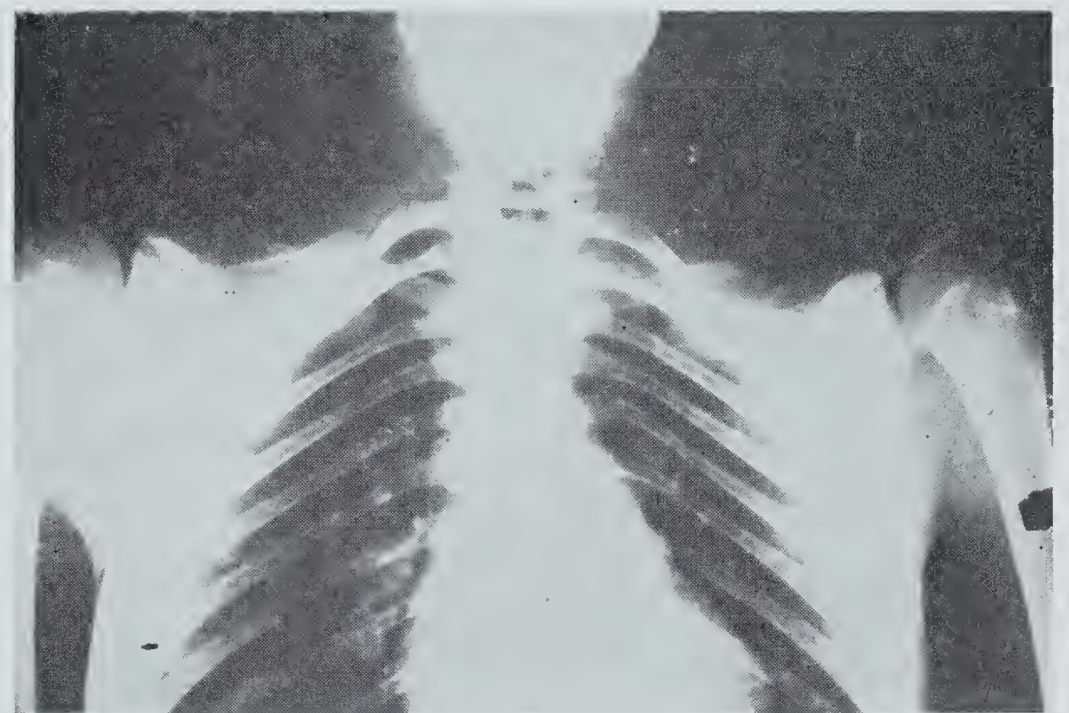


Fig. 4: Complete absence of lateral half of clavicles, bilateral.



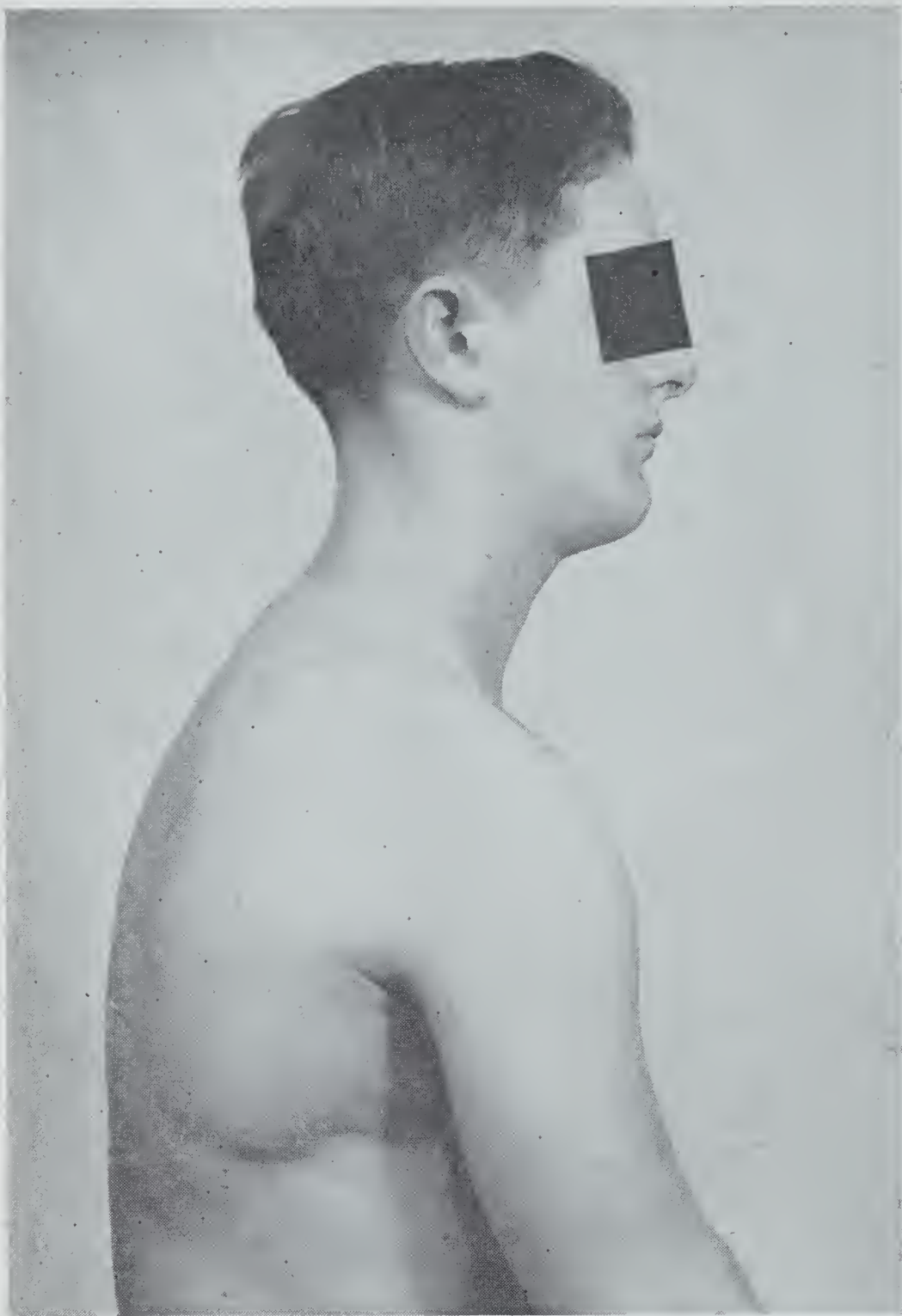


Fig. 5: Large broad head, recessive face, sloping shoulders.

atures both in the antero-posterior plane and the sagittal view. Occasional laminal defects in the form of spina bifida and hemi-vertebrae have been noted. Soule likewise calls attention to the absence of lower sacral segments and coccyx in these cases. The pelvis is usually of an anthropoid character, with defects in the symphysis pubis. This widening of the symphysis pubis is occasionally mirrored in the posterior sacroiliac joint.

*Lower Extremities:* It has likewise been reported by Soule and Fairbanks that coxa vara and some shortening of the tibia and fibula are present in this condition.

*Muscles:* The loss of origin and insertion areas for the muscles about the shoulder girdle does not appear to have apparently interfered with their function and they apparently secure attachment to the soft tissue in their normal areas.

*Nervous System:* There have been no consistent findings of constant central nervous system lesions, although Soule reports two cases of brachial plexus palsy with neurologic symptoms due to brachial plexus traction.



Fig. 6: Slender build, shortened upper extremities, narrow chest.

#### CASE REPORT ON PATIENT B. E. M.

This patient was first seen in January 1951 while the author was in service during the Korean episode. He gave a history that two sisters and a mother were similarly afflicted with this condition. It had not affected him particularly in any way except that he felt that he was not quite as strong as his fellow students at the Cook and Bak-



Fig. 7: Mild curve of distal phalanx, the index finger ulnarward.



er School where he was currently enrolled. He had taken part in high school athletics and, other than some weakness, had never noticed any particular trouble, except that he had the ability to completely touch his shoulders which had always placed him somewhat apart from his fellow students. X-rays and photographs show his general appearance and specific condition at indicated areas. Correspondence with the armed service shows that this patient died while serving as a



Fig. 8: Mild curve radialward of the distal phalanx of the ring and little fingers.



Fig. 10: Large broad skull with persistent anterior fontanel.

member of the military on October 5, 1952. No autopsy report was available.

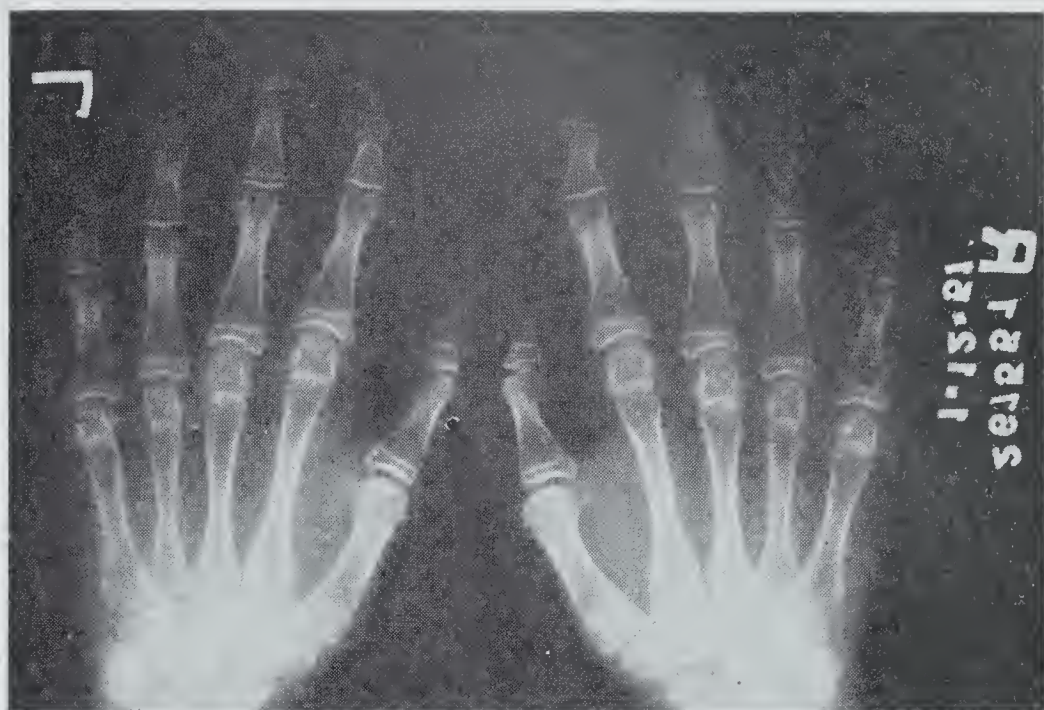


Fig. 9: Abnormal shortening of the middle and distal phalanges of the fingers. Persistent large epiphyses at base of 2nd metacarpal. Abnormally long 2nd metacarpal.

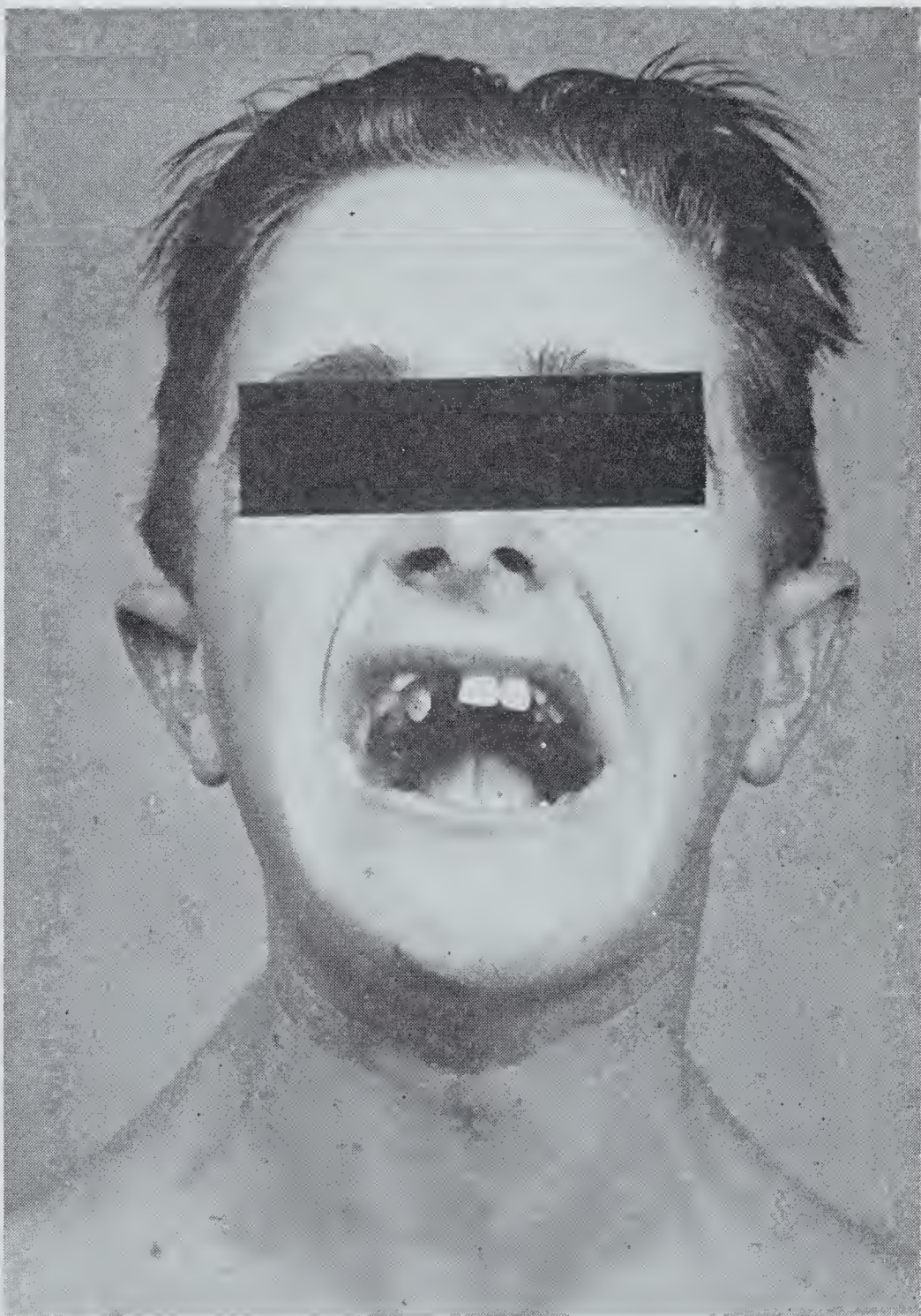


Fig. 11: Irregular dentition and incomplete eruption of permanent teeth.

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## Editorials

### ASSOCIATION OPPOSES FORAND BILL

At the recent hearings on the Forand Bill (HR 4700) before the House Ways and Means Committee of Congress, thirty-three state medical associations presented statements in opposition to the proposed bill. The statement by this Association was prepared by Dr. M. Vaun Adams, Chairman of the Committee on Legislation. It is understood that no further consideration will be given to the Forand Bill this year, and it is believed that opposition from the state medical associations played a part in this decision. The following is the statement presented by The Medical Association of the State of Alabama.

#### STATEMENT

of the

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Re: Forand Bill (HR 4700) 86th Congress

To: Ways and Means Committee  
U. S. House of Representatives  
Washington, D. C.

The Medical Association of the State of Alabama requested appropriate time to testify before the Ways and Means Committee in opposition to HR 4700. Since time was not available, we trust that this statement will be included in the printed record.

I am Dr. M. Vaun Adams, of Mobile, Alabama. I am a member of the House of Delegates of the American Medical Association and Chairman of the Committee on Legislation of The Medical Association of the State of Alabama. I have been in the private practice of pediatrics for twenty-eight years.

The membership of The Medical Association of the State of Alabama is opposed to the philosophy of government which has been embodied in the Forand Bill (HR 4700). It is contrary to the thoughts of the pioneers who made this nation great, contrary to the thoughts of the responsible citizens (and tax payers) who make their own living, who believe in individual initiative and self determination.

Legislation of this type will, without doubt, socialize the practice of medicine, as it has in many other countries. It will eventually destroy and socialize all of the learned professions. This regimentation of the profession will tend to stifle the ambitions, dull the spirit, and have detrimental effects on the character of younger generations. Such mobilization, as is proposed, will result in the deterioration of medical practice as it is known today.

The tremendous progress of scientific medicine has been accomplished under the free enterprise system, without paternalistic governmental decree. It is unrealistic to assume that any bureaucratic agency, administered under political guidance, can ever hope to achieve such an enviable record. Where any type of legislation interposes a third party between the physician and his patient, the gradual disintegration of health care is inevitable.

The medical profession strongly advocates the utilization of voluntary prepaid health insurance and hospital insurance. The evolution of newer types of insurance coverage, such as the deductible, the catastrophic, and the participating, are prime examples of progress in voluntary health insurance.

We believe that each state and county, particularly each county, should take care of those who are unable to care for themselves. In 1957 the Legislature of the State of Alabama established a plan for the care of the medically indigent. Appropriations will be increased every two years, according to the plan.

Even now approximately fifty per cent of elderly persons who are medically indigent are already registered on the welfare program in Birmingham, Mobile, Montgomery and Huntsville. We believe this is a community responsibility.

The medical profession is working, and will continue to cooperate and work, with all agencies interested in solving the problems of the aged. Lest you be mislead, however, only a small part of the problems of the aged are caused by lack of medical care. Many elderly people, because of fear or for other reasons, refuse to take advantage of



available medical care. We must strive hard to preserve our own individual freedom as well as our community freedom.

Any discussion of social security, and its ramifications, naturally gravitates to economic feasibility and the national debt. It troubles many of us to watch the soaring cost of government during the last two or three decades. At some time in life every man must make an accounting of himself, to himself, and so it should be with the government. The unpredictable cost of unrestrained social and health legislation could easily cause economic chaos.

The experience of other nations shows that the cost of executing compulsory health plans will far exceed the original estimates. There will certainly be a serious shortage in hospitals, nursing homes, beds, nurses, and in x-ray as well as medical technicians.

Without doubt, the ultimate goal of the sponsors of the Forand Bill is the complete socialization of medicine, and then the socialization of dentistry and all the other professions. They are attempting to destroy a way of life which has accomplished great deeds and has also given us independence, individuality and freedom.

The Medical Association of the State of Alabama wishes to thank the Ways and Means Committee for the opportunity of presenting some fundamental and basic concepts which we believe are of the utmost importance in a discussion of HR 4700.

#### TINSLEY RANDOLPH HARRISON LECTURE

The second annual Tinsley Randolph Harrison Lecture will be delivered on September 22, 1959, at 8 P. M. in the auditorium of the University Hospital and Hillman Clinic. Dr. Alfred Blalock, Surgeon-in-Chief of the Johns Hopkins Hospital, will be the essayist and his title will be "Cardiac Surgery with Particular Reference to Coronary Disease."

In addition, Dr. Blalock has agreed to address the Jefferson County Medical Society on the evening of Monday, September 21st, and his title for this function will be "Some of the Changing Concepts in Surgery." He will also participate in Medical Grand Rounds on Tuesday morning, September 22, 1959, from 8:30 to 9:30 in the auditorium of the University Hospital & Hillman Clinic.

The Harrison Lectureships were made possible through the contributions of Dr. Harrison's former students, interns, house officers and colleagues. The establishment of the lectureship was made known to Dr. Harrison at a dinner given in his honor in Atlantic City in May 1957. Dr. William Dock, Professor of Medicine, State University of New York School of Medicine, gave the first lecture in November 1958.

No doubt many physicians from throughout the state will want to avail themselves of the opportunity to hear Dr. Blalock.

#### EFFECTIVE ULCER TREATMENT

"Satisfactory" and often "remarkably rapid" healing in all cases of surface ulcers treated during a two-year test at a large mental hospital is reported by Dr. Oscar K. Diamond of Creedmoor State Hospital, Queens Village, New York.

The study appeared in the *New York State Journal of Medicine* (59: 1792, May 1, 1959).

Emphasizing the importance to institutions of an effective ulcer treatment, Dr. Diamond states that "surface ulcers seriously interfere with treatment of the primary condition for which institutional patients are hospitalized."

The ulcer treatment regimen, reported to be "the most effective of any with which we have had experience," includes use of two topical medications, as well as relief of local pressure, control of diabetic conditions, and supportive or systemic measures to improve local circulation.

"The enzymatic debriding agent papain-urea-chlorophyllin ointment (Panafil) is employed initially to remove necrotic tissue and debris and to produce a clean granulating base. From this stage to ultimate healing, chlorophyllin ointment (Chloresium) is used to promote granulation and epithelization. Local infection is effectively controlled by the enzymatic removal from the lesion of the substrates on which infecting organisms feed and by subsequent maintenance of healthy granulations."

Of the cases studied, about 50% were decubitus ulcers. The remainder included varicose, arteriosclerotic and diabetic ulcers. Occasionally, gangrenous lesions were encountered. Most of the patients studied were in the older age group, "up to and including 90 years of age," it is reported.

Dr. Diamond declares that "although the length of time required for treatment varies, we have come to expect healing of most decubitus ulcers within six weeks and of varicose ulcers of approximately 'quarter' size within three weeks. No irritation or sensitivity has been encountered."

Dr. Diamond emphasized that Panafil and Chloresium "are highly satisfactory from a practical standpoint. Both preparations are topically applied under standard dressings and require no special precautions. Minimally-trained personnel can carry out this treatment."

"The advantages of this simplicity of application, in comparison, for example, with proteolytic agents which must be injected frequently, are obvious. Significant economies in nursing time and in the time of supervisory medical personnel are



achieved without subtracting from the patients' welfare. The cost of the medications themselves compares favorably with that of other agents used for similar purposes."

Turning to the rationale of papain-urea-chlorophyllin ointment, Dr. Diamond notes:

"Papain is a proteolytic enzyme which digests necrotic tissue and liquefies viscous exudate. However, it is the combination with urea which enables papain to provide thorough debridement of all types of devitalized protein matter in the wound.

"Papain is unique in that it must find its activators in the wound. Urea, a protein solvent and denaturant, exposes the reactive groups in protein matter, thereby rendering this matter more susceptible to digestion and at the same time providing activation for the enzyme. The presence of chlorophyllin controls inflammation and thereby allows continuous use of the proteolytic agents."

The physician reports that chlorophyllin ointment, which "has been employed for many years to promote the healing of resistant wounds," is "unusually bland and soothing; in fact, in some nine years experience with many hundreds of cases we have yet to encounter a single case of irritation or sensitivity traceable to the active ingredient. Yet the preparation is far from inert. It promotes granulation more rapidly and of better quality than any other topical preparation we have used."

#### FULVICIN EFFECTIVE AGAINST RINGWORM

The new antifungal antibiotic, Fulvicin (griseofulvin), is the most effective drug available for the treatment of certain common forms of superficial fungus infections generally known as ringworm, according to a report by Dr. Frederick Reiss in a recent issue of *Medical Circle Bulletin*.

After treating a series of 36 patients suffering from *Tinea capitis*, *onychomycosis* and *Tinea corporis*, in which "dramatic" clinical results were obtained, he concluded that the new oral antibiotic is especially effective against scalp ringworm caused by *M. audouini* and *T. tonsurans*, and appears "equally effective in *Tinea corporis* and in *onychomycosis* caused by *T. purpureum*."

In 20 of 23 patients with *M. audouini* infection of the scalp, cures were effected in a period of 21 to 43 days; and in three of five patients with *T. tonsurans* infection, 36 to 62 days.

"It is noteworthy," he writes, "that hair was again growing normally in all these patients between the second and third weeks. This was particularly striking in children with *T. tonsurans* infections; in the past, recovery of normal hair growth sometimes required a number of years in

patients with *T. tonsurans* infection of the scalp."

Dr. Reiss reports: "Except in one case where a temporary gastric upset occurred in an adult, we have seen no untoward side effects with griseofulvin. In all our patients, blood, urine and hepatic function tests were done and all were normal."

Fulvicin will be made available to the medical profession by Schering Corporation.

#### MORE AND MORE WOMEN FEWER AND FEWER MEN

By the time human life expectancy hits 100 years, there will be five women for every two men.

Drs. Edward L. and Walter M. Bortz, authors of an article in the July issue of *GP* magazine, point out that nature seems to place a higher value on the female of the species.

The doctors add that the female body "appears to be more complex, especially in its glandular equipment. The female usually requires more repair work. However, while her body will bend, the male body will break."

Also, the male body more quickly loses its capacity to reproduce. The authors mention a recent report from England, telling about a woman in a small village who became pregnant at age 75. They also mention a report from South Africa concerning a 51-year-old woman who had quadruplets, three boys and a girl.

The article, entitled "Major Issues of Aging," stresses that the cells in the human body are in "a state of perpetual reorganization. The old man is not the same individual he was in his youth, for the material of which he is composed is continuously being replaced by new material molded into the same shape."

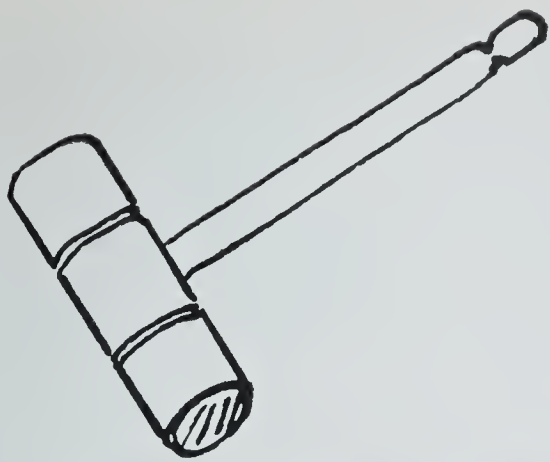
And, within each person's body, the aging process takes place at different speeds. For example, the coronary arteries age quickly while the tissues of the eye would probably last 120 years if the rest of the body didn't deteriorate more rapidly. Also, the skin provides as much protection at age 85 as it did at age 20.

The doctors also list the ten leading causes of death in 1900 and 1957. Tuberculosis, ranked first in 1900, has since slipped to tenth. Three leading causes, at the turn of the century, are no longer in the top ten (diarrhea and enteritis, cerebral hemorrhage and bronchitis).

"Medical science," the authors point out, "is probing the dark recesses of the various maladies, infections, maladjustments and deteriorations which threaten the life span."

Dr. Edward Bortz is chief of the medical service at Lankenau Hospital, Philadelphia, Pa. Dr. Walter Bortz is a resident in medicine at Charity Hospital, New Orleans, La.





# President's Page

## NINETY YEARS AGO

THE Association met in Mobile in 1869. The year before, "pursuant to a call issued by the Selma Medical Society, delegates from the Selma Medical Society, the Greensboro Medical Society, the Montgomery Medical and Surgical Society, and the Mobile Medical Society, together with other medical gentlemen from various parts of the State, met in the city of Selma on the 3d day of March, 1868, for the purpose of reorganizing The Medical Association of the State of Alabama."

"It was found that the lapse of time since the last meeting of the Association, and the intervention of the war, had sadly thinned the ranks of its members, there being only six of them present. Of gentlemen not before on the Roll of Members, there were fourteen." Among the six who had been identified with the Association prior to the War Between the States was Dr. A. G. Mabry, President in 1868 and 1869, who introduced the resolution to revive the organization.

"Resolved, That we, the members of The Medical Association of the State of Alabama, here assembled, do revive and reestablish said Association, and invite the physicians present who are not members to join us in so doing and to become members of the Association."

"The resolution was adopted, when all the physicians in the hall came forward and signed the Roll, at the same time paying the initiation fee of one dollar." Dr. Mabry was chosen President and Dr. Jerome Cochran, Secretary.

"On being conducted to the chair, Dr. Mabry expressed his obligations for the honor conferred upon him, and, in a chaste and elegant address, gave a history of the organization of the Association" in 1847 in Mobile, in a building where the Battle House now stands, "and of its subsequent progress up to the time when its annual sessions were suspended by the war, making honorable mention of names borne by men who have labored in the cause of humanity and science, some of whom have passed away to receive the rewards of well-spent lives, while others are still left among us to encourage emulation in good deeds by virtue of that best of all arguments—good example. He concluded by expressing the hope that the Association, reorganized and rejuvenated, might have before it a career of future usefulness and prosperity worthy of the honorable memories which cluster around its past record."

When the meeting of 1869 was called to order in Mobile at noon on March 2d, delegates were present from the Autauga, Greensboro, Mobile, Monroe, Montgomery, Selma, Tuscaloosa and Wilcox Medical Societies, and from the Medical Association of North Alabama. So impressed was Dr. W. A. Cochrane of Tuscaloosa that he asked for the adoption of an appropriate resolution:

"1. *Resolved*, That we hail with pleasure our professional friends from North Alabama, who have put themselves to so much trouble and inconvenience in travelling so far to represent the interests of medical science.

2. *Resolved*, That we accept their presence here at this time as the harbinger of more intimate union of personal friendship and professional interests between the northern and southern portions of the State.

3. *Resolved*, That we hope to have the pleasure of meeting these gentlemen again in future annual meetings of our Association, and that other portions of the State, not now represented in the Association, animated by their zeal, may be lead to emulate their good example, and unite with us for the advancement of medicine."

When one reviews the history of the Association, there is cause to marvel at the breadth and depth of expression of our forebears in the profession. Let an example from the President's Message of 1869 conclude this page:

"Perhaps at no period in the history of the profession was it ever so free from theoretic speculation or so little influenced by the tyranny of dogmatism as at the present time. When a suggestion is made it is at once subjected to the test of reason—of close investigation and of practical experience—more now perhaps than ever before. Not until it has successfully stood these tests is it admitted as a fact or an established principle. The profession was never so worthy of public confidence. We have no reason to suppose that physicians are not as highly appreciated now as ever before, but it is unfortunately true that their services are unrequited. Perhaps for one half the services rendered no compensation whatever is returned, and the physician is left to struggle on as best he may, sustained mainly by the feeling which accompanies success and the consciousness of having performed his duty and discharged a high moral obligation, which, after all, may be the best reward."

*W. R. Carter*





# ORGANIZATION SECTION

## COMMITTEE ON LEGISLATION

Seven proposed legislative bills were reviewed by the Committee on Legislation at a special meeting in Montgomery on July 19.

Committee members attending this meeting were Drs. M. Vaun Adams, Chairman, J. A. Brantley, Douglas L. Cannon, William A. Daniel, D. G. Gill, Hugh Gray, E. L. McCafferty and William E. White.

In evaluating H. B. 336, Dr. Gill stated that Alabama is the one state in the nation that charges only fifty cents for a birth certificate. The bill would also provide for fees for doing statistical research, he said. A motion to approve this bill was passed by the committee.

The committee voted to oppose three bills because of their impracticality. These were: H. B. 227 that would require labeling of blood by race, H. B. 231 that would allocate six dollars per diem per patient to the Department of Corrections for the care and treatment of tuberculous prisoners in the state prison system, and H. B. 425 that would make it a misdemeanor for a person to sign a certificate of death without an examination of the body to which it pertains.

In reviewing the compulsory polio inoculation bill, H. B. 489, two vital issues were discussed. First, is a compulsory program a good thing? Second, if polio inoculation becomes compulsory, should it be on a county by county basis or statewide? After Dr. Cannon explained that the respective county boards of health already have the authority to make polio inoculations compulsory for preschool children, a motion authorizing the committee to inform the various county boards of health of this bill, to enlighten them of their present authority on this subject, and to conduct an opinion poll as to whether or not such a program should be compulsory and, if so, if on a county by county basis or statewide.

Before taking action on the two bills (H. B. 359 and H. B. 360) that would place an additional tax on alcoholic beverages for the care and treatment of the mentally ill, Mr. John Williams, Executive Secretary of the Alabama Association for Mental Health, was introduced and he outlined the needs of Alabama's three mental health institutions. These needs, he said, are based on a survey recently made by a citizens committee.

The committee passed the following resolution:

Whereas, A survey of Alabama's three state mental institutions, Bryce and Searcy Hospitals and Partlow State School, reveals inadequate physician and nursing staffs, overcrowded conditions, and inadequate facilities, and

Whereas, A citizens committee appointed by the Alabama Association for Mental Health has recommended a program requiring some seven million dollars, and

Whereas, The Medical Association of the State of Alabama is vitally concerned with the mental health of the people of Alabama, and

Whereas, The Medical Association knows that Dr. Sidney Tarwater and his staff have done a magnificent job under well nigh impossible circumstances, therefore be it

*Resolved*, That the Medical Association of the State of Alabama endorses the suggested increase in allotments to the three state mental institutions from \$2.36 per day per patient, and be it further

*Resolved*, That The Medical Association of the State of Alabama commends the citizens committee on the remainder of its proposed program, but requests additional information on the institution of this program, and the manner in which it would function, and be it further

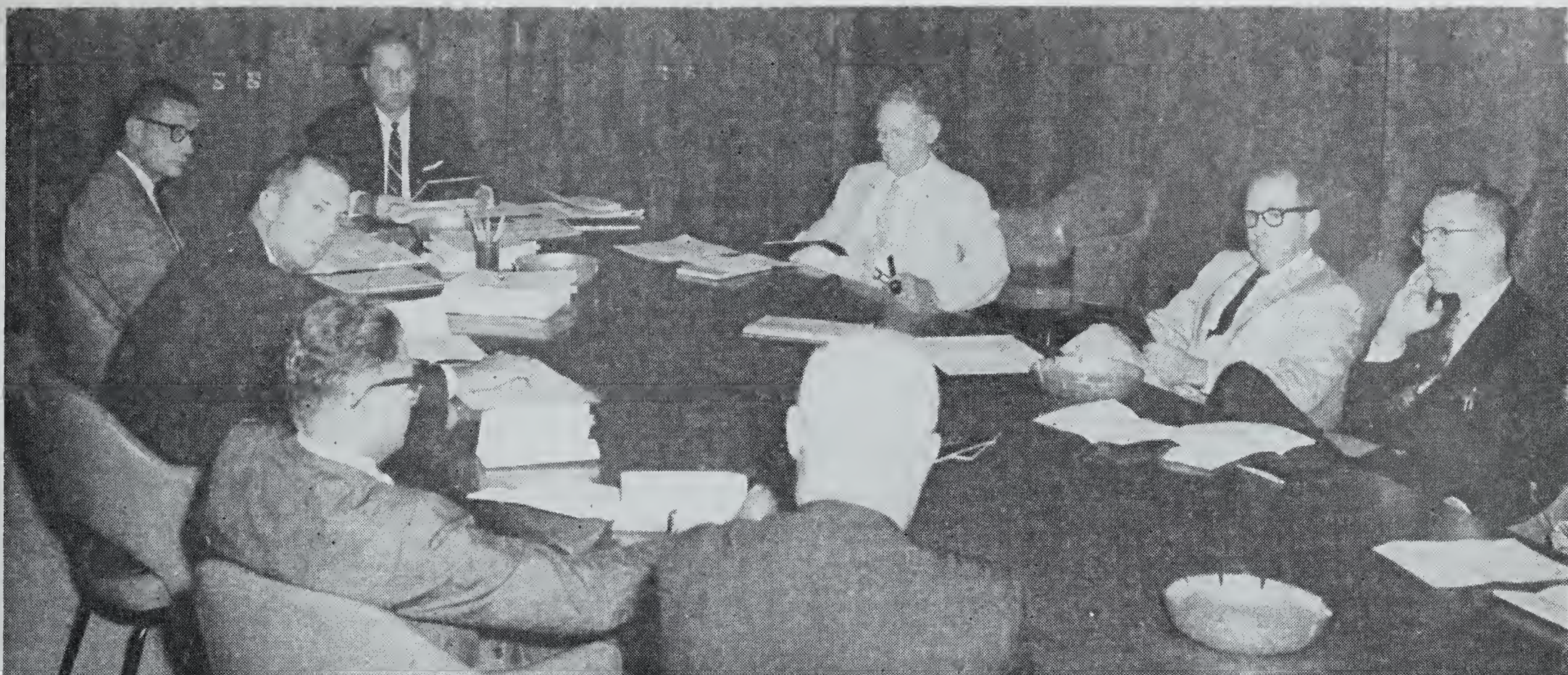
*Resolved*, That The Medical Association of the State of Alabama requests the Governor of Alabama and the members of the Legislature to give consideration and support to the enactment of measures which will give immediate relief to the unsatisfactory situation at the three state mental institutions and which will allow for expanded future program to cover the remaining needs within Alabama.

## COMMITTEE ON PUBLIC RELATIONS

At a recent meeting of the Committee on Public Relations in Montgomery, the committee approved a recommendation to appoint three to five physicians to the Joint Commission for the Improvement of Care of the Patient, which is sponsored nationally by the American Medical Association, American Hospital Association, American Nurses' Association, National League of Nursing, National Federation of Licensed Practical Nurses, and the State Medical Association. The committee instructed Chairman Julius Michaelson to make the appointments to this new subcommittee on public relations.

The committee accepted an invitation of the Alabama Veterinarian Medical Association to become a member of a state interprofessional council. The purpose of this council, composed of phy-

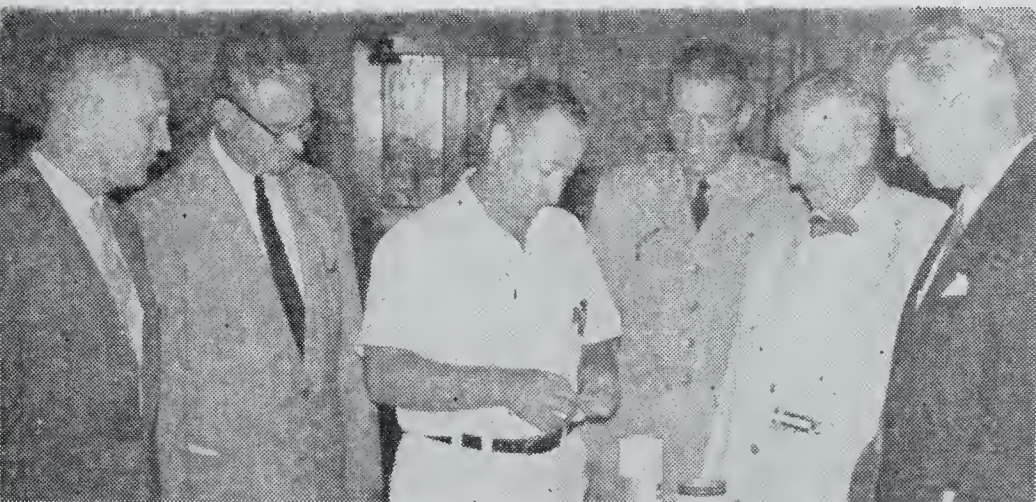




**COMMITTEE ON LEGISLATION**—John Williams, (**back to camera**), Executive Secretary of the Alabama Association for Mental Health, discussed the program proposed by that Association with members of MASA's Committee on Legislation at a meeting in Montgomery on July 19. Pictured above are: (**left to right**) Mr. John Williams, Birmingham; Dr. William E. White, Anniston; Dr. J. A. Brantley, Troy; Executive Secretary William A. Dozier, Jr., Montgomery; Dr. M. Vaun Adams, Chairman, Mobile; Dr. Douglas L. Cannon, Montgomery; Dr. E. L. McCafferty, Mobile, and Dr. William A. Daniel of Montgomery.



**RURAL HEALTH COUNCIL**—Members of the State Rural Health Council met in Sylacauga on August 9. Shown above are: Dr. Paul Nickerson, Chairman of the Committee on Rural Health, Sylacauga; (**first row, left to right**) Mrs. Cecil Loyd, Jr., Chairman of the Rural Health Committee of Home Demonstration Agents, Auburn; Miss Mary Hulsey, District Home Demonstration Agent, Auburn; Mrs. Clyde D. Peck, Home Demonstration Agent, Scottsboro; (**second row, left to right**) Miss Ann Barr, State 4-H Club Leader, Auburn; Dr. W. C. Browne, Vincent; Dr. Winston A. Edwards, Wetumpka; Dr. William J. Donald, State Department of Health, Montgomery; Senator Walter C. Givhan, Safford, and Mrs. William O. Jones, Alabama Congress of Parents and Teachers, Montgomery.



**ATHLETIC INJURIES CONFERENCE**—Panelists at the Second Annual Conference on Management and Prevention of Athletic Injuries held in Tuscaloosa on August 5 were: (**left to right**) Dr. J. Michaelson, Chairman, Foley; Dr. Phillip P. Gilchrist, Mobile; Jim Goostree, Athletic Trainer, University of Alabama; Major Charles D. Ridgley, D. D. S., Gunter Air Force Base; Dr. John D. Sherrill, Sr., Birmingham; Dr. James Garber Galbraith, Birmingham.



sicians, dentists and veterinarians, is to develop joint legislative and public relations programs.

The committee approved membership in the National Information Bureau, an organization devoted to tabulating and publicizing disbursements of national fund raising campaigns of voluntary health organizations. The annual findings of this bureau, showing how contributions to the various campaigns are used, will be made available to the physicians of the state.

A course in "Human Relations" for medical assistants, to be conducted by the University of Alabama Extension Division at University Centers throughout the state, was also approved by the committee.

The committee approved of physicians participating on educational television programs originating from Alabama Polytechnic Institute, Auburn, as long as they adhere to the Association's Radio and Television Code of Ethics.

#### ATHLETIC INJURIES CONFERENCE

The Second Annual Conference on Management and Prevention of Athletic Injuries was held in conjunction with the Alabama Coaches Clinic at Tuscaloosa on August 5.

Opening the program, Major Charles D. Ridgley, D. D. S., Instructor, Department of Dental Laboratories, Gunter Air Force Base, Montgomery, spoke on prevention and treatment of mouth injuries.

Dr. John D. Sherrill, Sr., Birmingham, explained to the group the proper management and prevention of knee, ankle and shoulder injuries.

"Management and Prevention of Maxillofacial and Eye Injuries" was the title of an address given by Dr. Philip P. Gilchrist of Mobile.

Dr. James G a r b e r Galbraith, Birmingham, spoke on prevention of head and neck injuries and their treatment.

Following the speeches, a panel discussion, with a question and answer session, was moderated by Dr. J. Michaelson, Foley, Chairman of the Association's Committee on Public Relations.

A demonstration on proper methods of taping and bandaging injuries was conducted by Jim Goostree, Athletic Trainer, University of Alabama.

The closing remarks were made by Paul Bryant, Head Coach and Athletic Director, University of Alabama.

The conference is sponsored annually by the State Medical Association, Alabama High School Athletic Association, A l a b a m a High School

Coaches Association, Alabama Dental Association, and the University of Alabama.

#### RURAL HEALTH COUNCIL

Representatives of the Extension Division of Alabama Polytechnic Institute, Alabama Farm Bureau, State Health Department and the State Medical Association met at the Sylacauga Health Department on August 9 for a meeting of the State Rural Health Council.

The meeting was devoted to the Council's activities in the following fields: survey of rural homes, intensive polio vaccination campaign, rat control, skin tests for tuberculosis, education of rural people on what services are available, development of a health record for recording immunizations received by each member of a family—one copy for the family and one copy to be kept on record at the Health Department.

Dr. Paul Nickerson, Chairman of the Committee on Rural Health, announced that a series of leaflets on child safety had been prepared and would be distributed throughout the state by Home Demonstration Clubs.

Safety precautions for babies of all ages—the helpless age, the age of awakening, the curious age, the adventurous age, the independent age, and the experimental age—are depicted in six of the seven leaflets. The seventh leaflet is devoted to immunizations children should have.

Dr. Nickerson pointed out that copies of these leaflets are available and request should be made through the State Medical Association in Montgomery.

#### THE CHIROPRACTIC BILL

The bill creating a State Board of Chiropractic Examiners should have become law by the time this issue of the Journal is published. This bill was approved by the Medical Association's Committee on Legislation and is the third in a series of four bills being printed in the Journal to help acquaint you with the changes in the Medical Practice Act.

A BILL  
TO BE ENTITLED  
AN ACT

Relating to the practice of chiropractic; providing for the certification, examination, and regulation of chiropractors; creating the State Board of Chiropractic Examiners, and prescribing its powers, duties, and authority; providing for the issuance of certificates of qualification, and prescribing the qualifications of persons to practice chiropractic; providing for the collection and disbursement of examination and other fees and charges; authorizing the State Board of Chiropractic Examiners to examine applicants for certificates of qual-



ification, and to issue, deny, suspend, and revoke such certificates; prescribing the manner of appealing from the decisions of the board to the courts of this State; and providing for the enforcement of the act and prescribing penalties for violations thereof.

BE IT ENACTED BY THE LEGISLATURE OF ALABAMA:

Section 1. (a) The term "chiropractic," when used in this act, is hereby defined as the science and art of locating and removing without the use of drugs or surgery any interference with the transmission and expression of nerve energy in the human body by any means or methods as taught in schools or colleges of chiropractic which are recognized by the State Board of Chiropractic Examiners.

(b) Any chiropractor who has been certified by the State Board of Chiropractic Examiners and licensed by the State Licensing Board for the Healing Arts may examine, analyze and diagnose the human body and its diseases by the use of any physical, clinical, thermal or radonic method, and the use of x-ray diagnosing, and may use any other general method of examination for diagnosis and analysis taught in any school of chiropractic recognized by the State Board of Chiropractic Examiners.

(c) Chiropractors certified by the State Board of Chiropractic Examiners and licensed by the State Licensing Board for the Healing Arts may practice chiropractic as set forth in subsections (a) and (b) of this section, and may also recommend the use of foods and concentrates, food extracts, and may apply first aid and hygiene; but chiropractors are expressly prohibited from prescribing or administering to any person any drugs included in materia medica, except as herein provided, from performing any surgery, from practicing obstetrics, or from giving x-ray treatments, or treatments involving the use of radioactive materials of any description.

Section 2. There is hereby created and established a State Board of Chiropractic Examiners. The board shall be composed of five members, each of whom shall be: a resident of Alabama, who has resided in this State for at least two years; a graduate of a chartered chiropractic school or college, which required actual attendance in the school as a prerequisite to graduation therefrom; currently engaged in the practice of chiropractic and has been engaged in such practice in this State for a period of at least two years; and of good moral character. Not more than two members of the board shall be graduates of the same chiropractic school or college. As soon as practicable after this act becomes effective the Alabama State Chiropractic Association, Incorporated, shall nominate fifteen persons, possessing the above enumerated qualifications and submit a list of the persons so nominated to the Governor. From this list of nominees the Governor shall appoint five members to the State Board of Chiropractic Examiners; two members for a term of one year, each beginning with the date of appointment; two members for a term of two years each, beginning with the date of appointment; and one member for a term of three years, beginning with the date of appointment. Whenever a vacancy occurs on the board, whether by expiration of the term, death or resignation of a member, or other cause, the Alabama State Chiropractic Association, Incorporated, shall nominate to the Governor three persons for membership on the board, and from this list of nominees the Governor shall appoint a member to fill the vacancy on the board. Before appointing any member of the board the Governor shall satisfy himself that the appointee is of high character

and standing, and possesses the other qualifications prescribed in this section.

Section 3. Upon the expiration of the respective terms of the five members appointed for the terms designated in Section 2 hereof, members of the board shall be appointed for a term of three years beginning with date of appointment, it being the intent and purpose of this act that the members of the board shall serve for staggered terms of three years each. The Governor shall have the power to remove from office any member of the board for the neglect of any duty required by this act, for incompetency, or for unprofessional conduct, or upon sufficient proof to the Governor of the inability, misconduct, or such conduct as in the discretion of the Governor is unbecoming a member of the board. Vacancies on the board by reason of death, resignation, or otherwise shall be filled by appointment by the Governor for the unexpired term in the manner prescribed in Section 2, above. Before taking office, the members of the board shall take and file with the Secretary of State the constitutional oath of office required by Section 279 of the Constitution of Alabama.

Section 4. Each member of the board shall be entitled to receive ten dollars (\$10.00) for each day's attendance at a meeting of the board, plus actual subsistence and traveling expenses incurred in attending such meetings. All expenditures by the board shall be made only on requisition signed by the president or vice-president of the board.

Section 5. All examination fees, certification fees, renewal fees, and other such funds received by the board under the provisions of this act shall be deposited in the State Treasury to the credit of the State Board of Chiropractic Examiners, and all such funds are hereby appropriated to the board to defray the expenses incurred in carrying out the provisions of this act, but the board shall in no event issue warrants in a total amount in excess of the amount appropriated therefor by the Legislature in the general appropriation bill. Provided, further, that no funds shall be expended by the board for any purpose unless such funds have been allotted and budgeted in accordance with the provisions of Article 3 of Chapter 4 of Title 55, Code of Alabama (1940). The books and records of the board shall be subject to state audit in the same manner and to the same extent as any other state agency. The secretary-treasurer shall keep a true and accurate account of all funds received by the board and all expenditures made by the board.

Section 6. The members of the State Board of Chiropractic Examiners shall convene within thirty days after their appointment and elect a president, vice-president, and secretary-treasurer from among their members, and thereafter the board shall elect, annually, a president, vice-president, and secretary-treasurer from among the members of the board. The board shall hold its regular sessions during the second week of April and October each year. The board shall adopt a seal, which shall be affixed to all certificates issued. A majority of the board shall constitute a quorum. The board shall from time to time adopt such rules and regulations as it may deem proper and necessary for the performance of its duties. The secretary-treasurer of the board shall give bond in the principal sum of one thousand dollars (\$1,000), payable to the State of Alabama, for the faithful performance of his duties. The premiums for such bond shall be paid by the board from funds appropriated for its use.

Section 7. Any person wishing the right to practice chiropractic shall make written application to the State



Board of Chiropractic Examiners in such form as the board may prescribe. Each applicant shall be of good moral character and shall be a graduate of a chartered chiropractic school or college which teaches only attendance courses and requires a four-year standard college course. Such applicant shall also have had literary training equaling as much as a regular high school. Application shall be in writing and shall be signed by the applicant in his own handwriting, and shall be sworn to before some officer authorized under the laws of this State to administer oaths, and shall recite the history of the applicant's educational qualifications, how long he has studied chiropractic, what collateral branches, if any, he has studied, the length of time he has engaged in clinical practice, with proof thereof in the form of diplomas, certificates, etc. Each applicant shall submit with his application satisfactory evidence of good character and reputation. Each applicant for a certificate of qualification shall pay to the board a fee of twenty-five dollars (\$25), which shall accompany his application. A like fee shall be paid for any subsequent application.

Section 8. All examinations shall be in writing and upon the following subjects: symptomatology, physical diagnosis, neurology, hygiene and sanitation, chiropractic orthopedy, nerve tracing and adjusting, as taught by standard chiropractic schools or colleges, and spinography. A certificate of qualification shall be issued to the State Licensing Board for the Healing Arts for each applicant examined who shall correctly answer seventy-five (75) per centum of all questions asked; if any applicant shall fail to answer correctly seventy-five (75) per centum of the questions on any branch of such examination, he or she shall not be entitled to a certificate of qualification.

Section 9. Chiropractors who have complied with the provisions of this act shall have the right to adjust patients according to specific chiropractic methods, and shall observe state, county, and municipal public health regulations, reporting to the proper health officers the same as other practitioners. Chiropractors shall not prescribe or administer medicine to patients, perform surgery, nor practice obstetrics or osteopathy.

Section 10. Persons licensed to practice chiropractic under the laws of any other state having requirements equal to those prescribed by this act may, in the discretion of the board, be issued a certificate of qualification to practice in this State without examination, upon the payment of a fee of fifty dollars (\$50).

Section 11. Every person who receives a license from the State Licensing Board for the Healing Arts shall have it recorded in the office of the judge of probate of the county in which he resides, and shall likewise have it recorded in the counties to which he may subsequently remove for the purpose of practicing chiropractic, and shall pay a fee of one dollar (\$1) to the judge of probate in each county in which the license is recorded.

Section 12. The State Board of Chiropractic Examiners may refuse to grant or may revoke a certificate of qualification to practice chiropractic, or may cause a licensee's name to be removed from the records in the office of the judge of probate in any county, upon any of the following grounds, to-wit: the employment of fraud or deception in applying for a certificate of qualification or in passing an examination provided for in this act; habitual intemperance in the use of ardent spirits or narcotics; inability or manifest incompetency or flagrant immorality; conviction of a crime involving moral turpitude or any violation of a state or federal law relating to narcotic drugs or of performing or attempting to perform a criminal abortion; or any other immoral or

unprofessional conduct. The board may, upon satisfactory proof that any person certified by the board or any applicant for a certificate of qualification has been guilty of any of the offenses above enumerated, revoke the certificate of such person, or refuse to grant a certificate of qualification to such applicant, upon majority vote of the board.

Section 13. Upon the presentation to the State Board of Chiropractic Examiners of any of the grounds enumerated in Section 12 of this act for revoking or refusing a certificate of qualification, it shall be the duty of the board to cause written notice of the time and place of hearing upon the charge preferred, together with a copy of the charge, to be served upon the person certified or the applicant, for a certificate of qualification, as the case may be, twenty (20) days before such hearing. The board shall prepare two copies of such written notice, and attach to each a copy of the charges preferred, and shall cause the same to be delivered to the sheriff of the county of the residence of the party against whom the charge has been preferred, together with two dollars (\$2) as a fee for service. Such sheriff shall, within ten (10) days thereafter, deliver to such party personally, or leave at the most notorious place of abode of such party, one of the notices, with the copy of the charges attached, and return the other notice, with a copy of the charge attached thereto, to the board, together with such officer's entry of service thereon.

Section 14. The accused party shall have the privilege of making defense at the hearing, either in person or by attorney, and on application to the board, he shall be furnished by the board with a subpoena for any witness in his behalf, or for the production of any book, writing, paper or document to be used in his behalf at the hearing. The board shall have the power to issue subpoenas and to compel the attendance of any witness or the production of any book, writing or other document in the possession, custody or control of any person. Any person refusing to produce any book, writing or other document or to appear to testify, without legal excuse, at such hearing of the board, after having been served with a subpoena issued by the board requiring such person to appear, produce any book, writing or other document, or testify at such hearing, shall be guilty of contempt, and upon certification of such act by the board to the judge of the circuit court in whose jurisdiction the hearing is held, or is to be held, the judge shall punish the same as though committed before him.

Section 15. No applicant shall be refused a certificate of qualification, nor shall the certificate of any person certified be revoked on account of his default or failure to appear before the board to answer the charge preferred against him, but in the case of default the board may proceed with the hearing, and upon satisfactory proof made of the truth of the charge preferred, refuse a certificate to the defaulting applicant or revoke the certificate of such defaulting party, regardless of the absence at the hearing of the party. Any person who is refused a certificate by the board, or whose certificate is revoked, as the case may be, if dissatisfied with the judgment, may appeal to the circuit court of the county of his residence, such appeal to be had as in other such cases as provided by law, within thirty days from the date such judgment is rendered. Any person taking an appeal under the provisions of this section shall post a satisfactory bond to be approved by the clerk of the circuit court conditioned to pay the costs of the appeal if judgment be rendered against the party making such appeal.



Section 16. The person whose certificate of qualification is revoked or refused shall be liable for costs as follows: preparing copy of notice, two dollars (\$2); procuring service of said notice, two dollars (\$2); each subpoena for witness, or for the production of any book, writing or document, fifteen (15) cents; transmitting appeal, two dollars (\$2); procuring cancellation of revoked license, twenty-five (25) cents. The board is empowered to enter up judgment for such costs as may accrue under the provisions of this act against the person liable therefor, as herein provided, in favor of the board and to issue execution thereon, which shall bear teste in the name of the president of the board and be signed by the secretary-treasurer of the board.

Section 17. In all cases wherein a certificate of qualification has been revoked and no appeal has been taken within the time allowed by law, it shall be the duty of the secretary-treasurer of the board, immediately after the expiration of the time allowed for appeal, to transmit to the executive officer of the State Licensing Board for the Healing Arts such information, and it shall be the duty of the State Licensing Board for the Healing Arts to forthwith revoke the license of such person; and the executive officer of the licensing board shall transmit to the judge of probate in whose office the revoked license is recorded a copy of the order of the board revoking such license, certified by said executive officer, with a fee of twenty-five (25) cents, and it shall be the duty of the judge of probate to cancel the record of the license by entering upon the face thereof a copy of the certified order. In cases wherein appeal proceedings are had and not sustained, the revoked license shall be cancelled in the manner above provided, immediately after the final termination of such case.

Section 18. The State Board of Chiropractic Examiners may at any time within two years of the refusal or revocation or cancellation of a certificate of qualification under this act, by a majority vote, issue a new certificate or grant a certificate to the person affected, restoring him to, or conferring upon him, all the rights and privileges of, and pertaining to, the practice of chiropractic as defined and regulated by this act, upon the applicant showing good moral character and possession of the qualifications required under the terms of this act. Any person to whom such certificate may have been restored shall pay to the board the sum of twenty-five dollars (\$25) upon the issuance of a new certificate.

Section 19. Every certificate of qualification to practice chiropractic shall expire on September 30 of the year for which it is issued. Every person having a valid certificate may on or before the first day of October 1960 and each year thereafter renew the same for the ensuing year by the payment to the State Board of Chiropractic Examiners of a fee of two dollars (\$2), accompanied by proof satisfactory to the board that such person has attended at least one two-day session of an educational chiropractic convention sponsored or endorsed by the Alabama State Chiropractic Association, Incorporated; provided, however, that the board may, for good and reasonable cause shown, waive the convention requirement. The secretary-treasurer of the board shall notify each licensee at least twenty (20) days prior to October 1st of each year of the due date for renewal, and failure to pay such renewal fee and submit proof of attendance at an educational chiropractic convention, unless waived, shall operate as a forfeiture of the right of the licensee to practice his profession in this State: Provided, however, that he may be reinstated by the board, in its discretion, upon payment of all fees due. All funds received by the board for annual license renewal fees may be used by the board for educa-

tion, promotion, and welfare of the science of chiropractic, and shall be expended only for such purposes and upon a majority vote of the board. It shall be the duty of the board to notify the State Licensing Board for the Healing Arts, on or before the first day of January of each year of any person who has theretofore been certified by the board who fails to renew such certificate of qualification under this provision; and it shall be the duty of the licensing board to refuse to register such person and his license shall be automatically revoked.

Section 20. It shall be unlawful for any person to practice chiropractic unless he shall have first obtained a valid certificate of qualification as provided in this act, and possesses all the qualifications prescribed by the terms of this act. Any person who shall practice or attempt to practice chiropractic without such a certificate, or any person who shall buy or fraudulently obtain such a certificate, or violates any of the terms of this act, or shall use the title "Chiropractic," "D. C.," or any word or title to induce the belief that he is engaged in the practice of chiropractic, without first complying with the provisions of this act, shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than one hundred dollars (\$100) nor more than five hundred dollars (\$500), or by imprisonment in the county jail for not less than thirty (30) days nor more than one year, either or both, at the discretion of the court. All subsequent offenses shall be separate and distinct offenses, and punishable in like manner.

Section 21. Notwithstanding any section of this act to the contrary, the board shall issue a license to practice chiropractic without examination to any person in the active practice of chiropractic in the State of Alabama on the effective date of this act provided said person shall make a written application to the board on forms and in the manner prescribed by the board, and provided further that said person produces evidence satisfactory to the board that he is a graduate of a school or college of chiropractic recognized by the board and is of good moral character. Such application shall be accompanied by a twenty-five dollar (\$25) application fee. Any person who is in the armed forces of the United States and who otherwise meets the qualifications of this section and was actively in the practice of chiropractic in this State before becoming a member of the armed forces of the United States shall have ninety days after discharge or resignation from the armed forces of the United States in which to make application.

Section 22. Chiropractors shall have the right to advertise within the limits prescribed by the statute creating the State Licensing Board for the Healing Arts.

Section 23. The provisions of this act are severable. If any part of this act is declared invalid or unconstitutional, such declaration shall not affect the part which remains.

Section 24. All laws or parts of laws which conflict with this act are repealed.

Section 25. This act shall become effective on January 1, 1960, after its passage and approval by the Governor, or its otherwise becoming a law, provided that three certain bills have become law on or before said effective date, to-wit, a bill known as the "Alabama Basic Science Law" (H. B. 151 or S. B. 76) and a bill creating a board to be known as the "State Licensing Board for the Healing Arts" (H. B. 150 or S. B. 75), and a bill amending and repealing certain sections contained in Title 46, Chapter 13 in the Code of Alabama of 1940, relating to the practice of medicine and the State Board of Medical Examiners (H. B. 153 or S. B. 74).



COMING EVENTS

September 12-13. Alabama Chapter, American Academy of Pediatrics, Annual Meeting, Grand Hotel, Point Clear.

September 13-15. Medical Progress Assembly, Tutwiler Hotel, Birmingham.

September 22. The Tinsley Randolph Harrison Lecture, "Cardiac Surgery with Particular Reference to Coronary Disease," by Dr. Alfred Blacklock, Baltimore, Md., University Hospital Auditorium.

September 24. Black Belt Chapter, Alabama Academy of General Practice, Monthly Meeting, Selma Country Club, Selma.

September 28-29. Tennessee Valley Medical Assembly, Chattanooga, Tenn.

September 28-October 2. Emory University School of Medicine. Five Days of Internal Medicine, Atlanta.

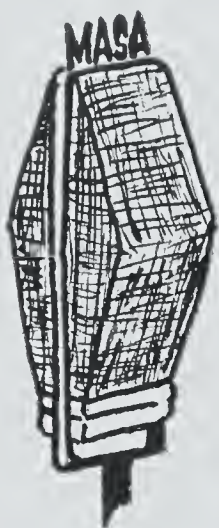
September 29. Alabama Trudeau Society, Annual Meeting, Tutwiler Hotel, Birmingham.

October 11. Symposium on Modern Clinical Medicine, co-sponsored by Alabama AGP, Medical College of Alabama, and Lederle Laboratories, Tutwiler Hotel, Birmingham.

October 16-17. Second Annual University of Alabama Medical Center Alumni Seminar.

October 22-23. Gulf Coast Clinical Society, 1959 Scientific Sessions, Admiral Semmes Hotel, Mobile.

November 16-19. Southern Medical Association, 53rd Annual Meeting, Atlanta, Georgia.



# ASSOCIATION FORUM

## THE INTERNATIONAL COLLEGE OF SURGEONS AND THE HEALTH OF OUR PEOPLE

By  
Senator Lister Hill

At the entrance to the International Surgeons' Hall of Fame in Chicago there is a symbolic statue called "Hope and Help." This statue depicts a suffering patient whose eyes look upward into the comforting face of the surgeon.

From time immemorial, my friends, you doctors have played the key role in the alleviation of human suffering. Yours has been the truly international art, for, as the great Louis Pasteur wrote, "Science does not belong to any country, because knowledge is a patrimony of humanity."

The history of surgery is shining evidence of the truth of Pasteur's dictum. Medical historians date the first document on surgery, known as the Edwin Smith papyrus, to I-Em-Hotep, the earliest recorded physician of ancient Egypt. The germination of surgery then followed a cosmopolitan trail through Hippocrates, Galenus, and Ambroise Pare' to Andreas Vesalius, the father

of the study of anatomy who took corpses of executed criminals from the gallows that he might study them.

Early surgery was decidedly on the rough side. In fact, in ancient and medieval times most of the cutting was done by barbers, butchers, dentists, stonecutters and herniotomists. Through most of the history of mankind, the surgeon has had to work under almost unbearable handicaps; he had to perform without an effective anesthetic, and with no knowledge of asepsis and antisepsis. Pre-operative and postoperative care were virtually unknown.

The modern age of surgery really began with the work of William Harvey, an Englishman, who in 1628 published his findings that the heart pumped the blood continually in the body. Harvey was one of the great research scientists of all times—his animal studies over a 20-year period laid the groundwork for modern physiology. A generation later the Italian Morgagni made many great contributions to the nature of disease, including the discovery that tuberculosis is a contagious disease.

The 19th Century laid the precise groundwork for the miracles of 20th Century surgery. It was in the 19th Century that the Hungarian Semmel-

Address delivered before the Alabama Section of the International College of Surgeons, Huntsville, May 21, 1959.



weis pioneered in the use of antiseptic methods in childbirth. A Frenchman, Louis Pasteur, after proving that germs cause disease, developed a process to kill them. Joseph Lister, whose honored name I am privileged to bear, one of the greatest surgeons in medical history, applied the basic ideas of Pasteur to surgery. His use of antiseptics in surgery revolutionized operating procedures. My father studied under Joseph Lister in England and much of what he learned from him prepared him for that eventful night—more than fifty years ago—when on a wooden table in a Negro shack right here in Alabama, by the light of two kerosene lamps, he performed the first successful suture of the human heart in America.

It is but fair to state that the 20th Century has witnessed a Golden Age of surgery. In 1903 a Dutchman, Willem Einthoven, with his newly developed electrocardiograph first recorded the electrical impulses in the heart. The years since have brought nothing short of miraculous techniques in surgery. In 1939 Dr. Robert E. Gross repaired the first congenital heart defect to yield to surgery. In 1945 Drs. Alfred Blalock and Helen B. Taussig developed their famous blue baby operation to correct a combination of congenital heart defects which robbed the blood of oxygen and the tissues of nourishment. This blue baby operation has been demonstrated in all parts of the world; it has saved the lives of thousands of children.

It is impossible to summarize in a few moments the staggering advances of the past decade. In 1949, for the first time in the history of mankind, a surgeon, Dr. Charles Bailey, performed an operation inside the heart. Today open-heart surgery is almost a commonplace, and surgeons now remove the aorta, the main artery leading out of the heart, and replace it with a plastic substitute.

The International College of Surgeons, founded in Geneva a quarter of a century ago, has played a major role in many of the exciting surgical and medical developments of recent years. Your guiding principle, "Science has no fatherland," is exemplified in the fact that your 13,000 members represent 64 countries. Your general surgical congresses bring together outstanding medical minds and knowledge from all parts of the world. Your international postgraduate surgical clinics, which are held in a score of countries each year, bring the latest surgical techniques to your medical brethren around the globe.

In a truly international spirit of dedication, you have shipped supplies, instruments, sutures, material, gloves and drugs to impoverished countries whose surgical centers are most desperately in need of this vital equipment. You sponsor re-

search grants to deserving scientists, and you give fellowships to surgeons desirous of improving their art through postgraduate study.

As you establish new chapters of the College in various parts of the world, you lift the standards of surgical practice; and bring the gift of extended life to many areas of the world where the Biblical three-score and ten years of life is still an unattainable goal. What this means, for example, to the struggling surgeons of Asia, far removed from large medical centers and struggling with staggering problems of infectious diseases which have been wiped out in the West, is told most movingly in the words of Dr. Muhammad S. Quereshi at the organization meeting of the Pakistan Chapter of the International College of Surgeons in 1952:

"The establishment of this Chapter will enable us to render two-fold service to our country: it will place Pakistan at once on the international map of surgery, and will greatly help in the improvement of our surgical standards which means better service to Pakistan nationals . . . The College brings about wide, frequent and intimate contacts with the leading exponents of our art. Such contacts with men who have devoted their lives to the solution of surgical problems and have made lasting contributions to our profession are undoubtedly a source of great inspiration and will stimulate us to emulate them."

The late Dr. Elmer Henderson, that gifted and distinguished son of Kentucky who held the presidency of both the American Medical Association and the World Medical Association, probably best summed up your impact when, in 1951 in his farewell address as President of the American Medical Association, he said:

"The work of the World Medical Association and of the World Health Organization and that of other groups, such as the International College of Surgeons, has assumed importance far beyond the field of medicine. By serving as forums for the exchange of ideas between men and women of vastly different backgrounds and environments, they initiate a realization of brotherhood that seems beyond the best efforts of diplomacy. Medicine's high role in world affairs is firmly rooted in the very nature of its own work."

In this second half of the 20th Century, America holds an increasingly solid position as the medical fountainhead of the world. Reversing the trend of the 18th and 19th Centuries, the trek is now westward across the Atlantic to the United States to keep abreast of the latest developments in the art and science of medicine and surgery.

In a world which modern communication and transportation make smaller each day, we become increasingly aware of the plight of our fellow men in many parts of the world. At the turn of the century the great physician Sir William Osler wrote, "Humanity has but three great enemies: fever, famine and war; of these by far the greatest, by far the most terrible, is fever." His words



still ring true. We are aware of the fact that an underprivileged two-thirds of the human race is constantly afflicted by the ravages of disease. Millions of these people suffer from the age-old scourges of malaria, tuberculosis, and the various intestinal infections. In many countries of the world a third of the babies die during the first year of life, and life expectancy falls 30 and 40 years short of the Biblical three-score and ten.

At present we are engaged in an effort to stop the spread of Communist imperialism, which is competing with us for the uncommitted peoples of the world. Communism finds a ready breeding place in the ill health and poverty of the submerged peoples of the world. Communist forces of militant medicine are on the march. We have reports that Russia is sending about 2,000 doctors a year to do medical missionary work in these underdeveloped areas.

Yet we who once fired the shot "heard around the world," and gave a new dimension to personal liberty in the founding of a Republic which guaranteed life, liberty, and the pursuit of happiness to all of its citizens, have been slow to meet this challenge.

In the closing days of the 85th Congress, I introduced a bill which would provide the mechanism through which this country would join with all the countries of the world in a united medical research offensive against the major killers and cripples of mankind. The bill would create, as part of the National Institutes of Health, a National Institute of International Health and Medical Research. This institute would be charged with the support of worthy medical research projects submitted by competent investigators from any part of the world. It would support the training of specialized research personnel here and abroad; it would encourage and support the rapid international exchange of research knowledge concerning disease and disability.

In introducing this bill on the Senate floor, I pointed out that the unfinished tasks facing medical research are truly staggering. For example, cancer, that most ancient enemy of man, is rising in its incidence in 33 countries of the world. What more priceless bounty could be given to the suffering peoples of the world than a cure for this universal disease?

In the current session of the Congress, 63 Senators have joined me in sponsoring this legislation. During the last week in February of this year, hearings were held on this International Medical Research Act, and I think I may state that it received unprecedented and overwhelming support from doctors, scientists, voluntary health organizations, and civic leaders.

Testifying on behalf of the American Medical

Association, its President, Dr. Gunnar Gundersen, told our Senate committee of "a growing recognition that medicine with its resources and influence fully mobilized can perhaps do more for world peace than the billions of dollars being poured into armaments." Mr. John T. Connor, the president of one of the largest pharmaceutical companies in America, told the committee that "the International Medical Research Act stirs the imagination with its opportunities for a new breakthrough in international relations as well as in medical research."

Dr. I. S. Ravdin, the distinguished surgeon who is currently serving as Vice-President for Medical Development of the University of Pennsylvania, told us that "we who have gained so much from the research of our own scientists and those from other countries, where good research has been done and is being done, must realize that the more quickly we can assist those less fortunate to begin to achieve what we have so fortunately achieved, the more quickly universal understanding will be won in our troubled world."

Your own Dr. Ross T. McIntire, who serves you so capably as Executive Director of the International College of Surgeons, strongly endorsed the bill in a very fine presentation before our Committee. Following his testimony, Dr. McIntire wrote me that "the International College of Surgeons is so organized that the program that you are proposing in the International Medical Research Act would be a natural, in that we have outstanding men in foreign lands who are in teaching institutions and who are presently engaged in forms of research."

In Chicago you have built the International Surgeons' Hall of Fame which does honor to those great men of all faiths and of all nations who have made immortal contributions to the art and science of surgery. On the day that the Hall of Fame was dedicated, Dr. Max Thorek, the father of the International College of Surgeons, pronounced these words, which truly epitomize the universality of all surgery:

"We shall honor these men, but not so much as they will honor us. As Agesilaus truly remarked, 'It is not the places that grace men, but men the places.' We are but paying another installment of our age-long debt to those who cleared the way for us, a debt to which we can never write 'paid in full.'"

Let me say that the International Medical Research Act is not only a payment on our debt to the physicians and surgeons of all nations but an affirmation of the ideals which motivate the International College of Surgeons. It states our belief that disease is a universal threat to the family of man, and that we must unite our medical research efforts to wipe out this threat. It accepts the fact that no nation has a monopoly on medical



research, and that our own self-interest dictates a maximum effort toward the rapid polling of the fruits of such research. It accepts the fact that we must raise a common banner under which the doctors and scientists of all lands can march toward the goal of better health for all mankind.

Inspired by your devotion to the health of our people, by your generous works for humanity, your courage and your faith, and moved by the

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**“Social Diet” for Weight Reduction Described**—You can diet and your friends don’t even have to know about it, a New York physician said recently.

A “social” diet—in which you eat normally with only a few modifications—was described by Dr. Milton Plotz in the July 25 Journal of the American Medical Association.

The modifications include the following:

—Not more than one slice of bread is to be eaten at any meal.

—At breakfast, cereal or one slice of toast—not both—may be eaten.

—Variety can be added to the lean meat, green vegetable routine at dinner by small portions of rice, noodles, cracked wheat, or spaghetti, a small baked potato, or portions of peas or lima beans.

—No gravies are to be added to food.

—Portions of everything should be reduced by about one-quarter, and “seconds” are not to be taken.

—Desserts should consist of one portion of fresh fruit, one ounce of any suitable cheese, or a small slice of angel food cake.

On this routine, almost every determined patient will lose weight, Dr. Plotz said. In 100 successive patients, this routine resulted in a reduction of about 1,400 calories a day, he said, adding, “In many instances, the patient’s friends—and sometimes his family—did not know that he was on a diet.”

Dr. Plotz noted that the dietary management of obesity “is evolving today in much the same way as that of diabetes some 20 years ago.”

In the treatment of diabetes, the use of highly artificial diets with special preparation, with special or even exotically prepared dietetic foods, and food substitutes has been superseded by diets resembling normal diets as closely as possible.

A similar evolution is taking place in the management of obesity; artificial and complicated routines are being replaced by those which throw less burden on the patient’s family and which enable the patient to be a more acceptable member of society.

Diets cannot be prescribed for a short time, Dr. Plotz said. The dieter must realize that he will have to change his eating habits for a long time—perhaps for life.

The dieter at first may need the help of a drug in suppressing his appetite. When newer eating habits are well established, the supportive medicine can often be withdrawn.

Dr. Plotz is associated with the State University of New York, Medical Center at New York, and Kings County and Goldwater Memorial Hospitals.

high ideals and purposes of your International College of Surgeons, we shall press forward into the ever-widening horizons of medical discovery and medical knowledge. In the confidence of knowledge, in the strength of integrity, in the tenderness of sympathy, in the fellowship of humility and in the love of God, we shall continue to wage together the never-ending battle for the health of our people, for the health of all peoples, and for peace on this earth.

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**Steps Listed for Saving Child from Plastic Suffocation**—Three steps for saving a child who is endangered by a plastic bag have been outlined by the American Medical Association.

In addition, it listed precautionary measures to prevent suffocation by plastic bags.

Since January at least 70 deaths, mainly in infants, have been attributed to plastic bag suffocation. Many children have died while playing with the bags or while the plastic film was being used as a make-shift pillowcase, mattress cover, or blanket protector.

The A. M. A. Committee on Toxicology, as part of its environmental health activities, outlined in the August 1 Journal the necessary steps to be taken if a child is ensnared by thin plastic material. They are:

1. If the child’s breathing has stopped, the immediate need is to restore breathing. If possible, call a neighbor or send for help. Ask that a fire department inhalator squad be summoned and that the nearest hospital be alerted.

2. Try to resuscitate the child, using the mouth-to-mouth technique recommended as the most effective method by the American Red Cross:

—Place the child on his back and extend the neck back. Put a towel or pillow under the shoulders so the head drops back.

—Lift and hold the lower jaw up to assure an open airway.

—Place the other hand on the stomach to prevent its overinflation.

—Place your mouth over the child’s mouth and nose and blow in. After each breath, turn your head to the side, take another breath, and blow in again. Repeat 12 to 20 times a minute.

3. If the child is suffering labored breathing, is stunned, or has difficulty in movement, rush him to the nearest hospital.

The committee also said, “Despite the sudden awareness of the potential danger to infants and children, the convenience and utility which plastic offers as a covering material suggests that it will continue to be used.”

It is therefore imperative that parents take precautions. They are:

1. Do not give plastic bags or plastic film in any form to children to play with.

2. After plastic bags and wrappers have served their purpose, destroy them.

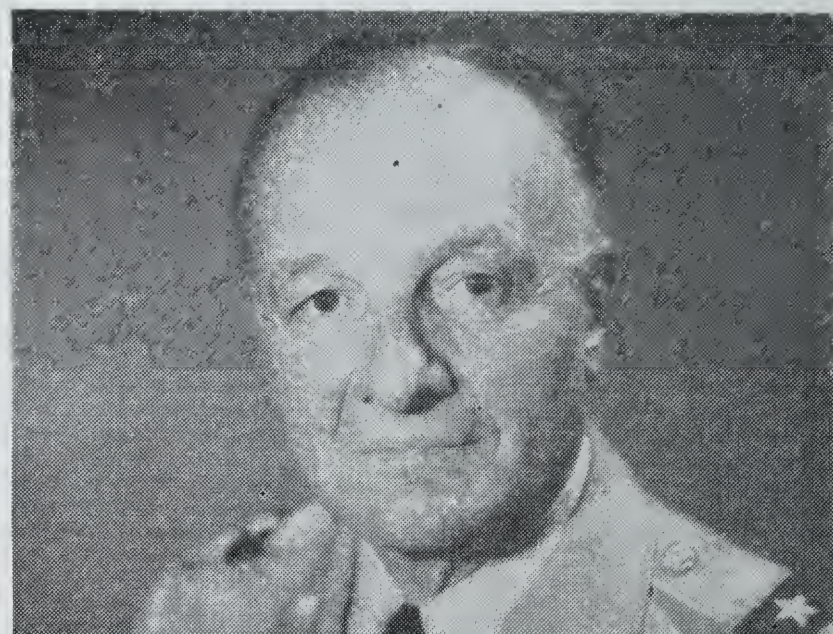
3. Do not use plastic film as slip covers for pillows and mattresses or as blanket protectors.





# around the state

## TRUDEAU SOCIETY SPEAKERS



TRUDEAU SOCIETY SPEAKERS—Dr. H. McLeod Riggins, President of the National Tuberculosis Association, (**left**), Ruth E. Leininger, R. N., Assistant Director and Nursing Education Consultant for the Tuberculosis Nursing Advisory Service of the National League for Nursing (**below**), and Lt. General Arthur G. Trudeau, Chief, Office of Research and Development, Department of the Army, (**right**), will be the principal speakers at the Alabama Trudeau Society meeting in Birmingham on September 29th.



STATE HEALTH OFFICER—Dr. D. G. Gill, President of the Association of State and Territorial Health Officers, was host to the Executive Committeemen and Committee Chairmen of the Association at a two-day meeting in Montgomery on August 3-4. Shown above with Dr. Gill (**center**) are Dr. Mack I. Shanholtz (**left**), Virginia, Secretary-Treasurer; Dr. Wilson T. Sowder, (**right**), Florida, Vice-President; Dr. Malcolm H. Merrill, (**left, second row**) and Dr. Andrew C. Offutt, Indiana, of the Executive Committee. Left: Business session of State Health Officers.







## MEDICAL CENTER NEWS

### NEW PSYCHIATRIC CLINIC TO BE CONSTRUCTED

Greatly expanded facilities for outpatient psychiatric care will come with the opening of a clinic building which was started at the Medical Center on August 1 at a ceremonial groundbreaking.

Mr. and Mrs. Joseph Smolian, whose gift of \$100,000 makes possible this new facility, participated in the ceremony. Also taking part were University officials, members of the psychiatry department, key medical people, and others who have worked for psychiatric care and mental health. These included Dr. Frank A. Rose, president of the University; Dr. Robert C. Berson, vice president in charge of health affairs; Dr. Richard T. Eastwood, executive director of University affairs in Birmingham; Matthew F. McNulty, Jr., administrator of University Hospital and Hillman Clinic; and Dr. James N. Sussex, chairman of the psychiatry department.

"This occasion marks the beginning of an important development for the Medical Center, the University of Alabama and the state," said Dr. Rose of the groundbreaking.

The new building, to be erected adjacent to the School of Nursing Building, will be a two-story structure of reinforced concrete frame. Its exterior will be red brick veneer backed with hollow clay tile. Precast concrete vanes are to shade the windows and embellish the building.

Plans for the new building include 27 consultation rooms, a group therapy room, a child treatment demonstration area, facilities for electroshock treatment, and ample office and storage space. The building will be constructed so that two floors may be added when needed.

Fully staffed, this clinic will be capable of handling 65,000 patient visits a year, according to Dr. James N. Sussex, chairman of the psychiatry department. Psychiatric service now takes care of 6,000 outpatient visits a year—about 120 consultations each week.

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### RESIDENTS AND INTERNS FOR 1959-60 ANNOUNCED

Residents and interns in the various departments of the Medical College of Alabama have been appointed for the 1959-60 academic year.

Residents are Drs. Alvin J. Bearman, Raul J. Hernandaz, James D. Jones, and Warren F. Stephan, anesthesiology; Drs. Robert N. Alexander, Donald Montgomery, and Asbury D. Wright, dermatology; Drs. William N. Dakos, James E. Harris, and G. Don Roberson, otolaryngology; Elmo Alexander Derrick, hospital administration.

Drs. J. Claude Bennett, John D. Boyette, George G. B. Bilsten, John I. Brooks, Jr., M. Lory Campbell, John B. Douglas, George E. Ennis, Ali Mohamed Fakhro, Thomas J. Ferrell, Jr., Mason D. Field, III, William Fulton, Stephen Furst, C. Bernie Johnson, Jr., Robert H. Lokey, Jean McNeil, Peter W. Morris, Constance Pittman, John H. Smith, Jack W. Trigg, Bayard S. Tynes, and Lloyd C. Warr, medicine.

Dr. Bluitt Landers, neurosurgery; Drs. Janice Cailleteau, John C. Carter, Gene W. Gray, Frank Giglio, Richard Osband, Paul Scokel, Selden Stephens, and Gilder Wideman, obstetrics and gynecology; Drs. Fakhredine Dolatabadi, Frederick D. Gillespie, John L. Hinton, Elmar M. J. Lawaczek, Adelle B. Sperling, and Jose L. Zubero, ophthalmology.

Drs. Ray Evans, Donald E. Kurth, Cletis Hand, James Leo, and John C. Strother, oral surgery; Drs. Ignacio Arboleda, James S. Faulkner, Edgar V. Howell, Furnie Johnson, Clarence Rawson, Lucius C. Sheehan, and Donald Slappy, orthopedics; Drs. Oliver Baker, Ernest Gonzalez, Charles S. Kahn, Needham Long, Edgard P. Maroun, and Ernest Tucker, pathology.

Drs. William W. Ausbon, Rabon B. Cox, Jr., Alonza R. Pappas, Katrina McArthur, William G. Null, Charles H. Smith, Joe K. Stephens, and Percy G. Sullivan, pediatrics; Drs. Henry Abele, Inez Fowler, and Nell Lowery, psychiatry; Drs. John Carlin, Lester B. Glover, John S. Hamilton, Robert Milledge, Frank P. Phillips, John Pickering, and Myung Soo Shin, radiology.

Drs. Thomas Allen, Robert Atland, Jerry Baines, Austin Bennett, Merrill Bradley, Barnard Bridges, James Carmichael, William Cox, Dallas Dalton, Robert Davis, Alan Dimick, Mell Duggan, Gerald Falletta, Orion Finklea, Floyd Fitts, Nolan Dulton, Charles Hollis, Cary Lambert, Henry Laws, Alvin Lewis, Holt McDowell, James Mathis, Al-



fred Phillips, William Pitts, Joseph Ray, James Russell, Eugene Sherlock, Earl Simmons, Everett Spees, and William Taylor, surgery.

Rotating interns are Drs. Margaret E. Averett, John W. Bolen, John L. Branch, Jr., Joseph K. Brantley, Jr., Max M. Bynum, Thomas K. Byrne, Jr., John G. Cocoris, James G. Creveling, Jr., Herman P. Ekern, Thomas C. Hurd, Jr., J. R. B. Hutchinson, Harry L. Phillips, Seth W. Poole, Roy F. Roddam, Bryant N. Sheehy, Gilbert O. Spencer, Jr., William S. Stickley, Kenneth D. Strother, and Robert C. Wesson.

Other interns are Drs. Chris H. Alexander, David L. Angle, Philip M. Awtrey, Maurice N. Courie, Richard J. Duma, Charles J. Faulk, III, Garry A. Goldstein, Harold L. Riley, III, and W. Russell Rowland, medicine; Drs. N. J. Conforti and Leon E. Pappanastos, oral surgery; and Dr. Andrew W. Morris, pathology.

#### DR. PIGMAN'S BOOK DISPLAYED IN MOSCOW

A book by Dr. Ward Pigman is on display at the American National Exhibit, which is currently drawing big crowds in Moscow.

Title of the book is *The Carbohydrates: Chemistry, Biochemistry and Physiology*. Dr. Pigman, an associate professor of biochemistry, describes the work as a monograph for specialists in these fields.

He said sections of the book were written by two other Medical Center staff members, Dr. Robert W. Mowry, associate professor of pathology, and Dr. Jane Reid Patton, research associate in pharmacology.

Selected by a national committee of scientists, librarians, and publishers, Dr. Pigman's book is one of a group of publications in the exhibition, designed to represent the best in American knowledge, technology, and culture.

The exhibit, which opened July 25 at Sokolniki Park in Moscow, is to run for six weeks. An exposition of Russian life is being held concurrently in New York City.

*The Carbohydrates* was published in 1957 by Academic Press.

#### HEARING TESTING, THERAPY TO BE ENLARGED THIS FALL

Expansion of both facilities and staff is planned by the Hearing and Speech Clinic for fall.

The unit's capacity for audiologic testing will be potentially doubled with the addition of an \$11,000 double floating room, giving the clinic two double suites for hearing testing. New equipment for the testing chamber will include a speech audiometer.

Addition of a speech and hearing therapist will enable the clinic to establish a therapy program for hard-of-hearing children and adults. Because of previous staff limitations the clinic has had few facilities for hearing therapy. The new staff member will work in the areas of lip reading, auditory training, speech correction, and hearing aid orientation.

These changes in staff and equipment are necessitating renovations including the creation of two new offices and an interior paint job throughout the clinic.

#### DR. SHIRLEY JOINS SURGERY STAFF

Dr. Sheridan Shirley has joined the Medical Center staff as instructor in the department of surgery.

A native of Birmingham and a graduate of the University of Alabama, Dr. Shirley received his M. D. degree from the New York Medical College-Flower and Fifth Avenue Hospitals.

He interned and did a two-year residency in surgery here, then went to New Orleans, La., for a three-year residency in urology at Tulane Ochsner Clinic Service of Charity Hospital. While at Tulane, Dr. Shirley taught and did research in renal physiology. He is now associated with the Veterans Administration Hospital as chief of urology.

Dr. Shirley and his wife, the former Fay Antwine of Birmingham, have two daughters.

#### FINAL PAYMENT MADE

Last payment has been made on a federal grant toward redevelopment of the Medical Center area.

A final installment of \$18,650 brought to a total of \$261,850 the federal assistance given this project. The city of Birmingham allocated about \$130,000 to match the federal grant.

The University bought the land—10½ blocks on the west side of the present Medical Center buildings—through a bond issue approved by Alabama voters, and the federal grant and matching local funds paid for clearing it.

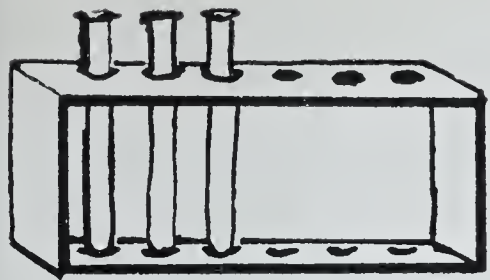
Use of the former slum areas for Medical Center facilities set a new national pattern in urban renewal programs. Until that time, slum clearance projects had all been coupled with development of low-cost housing.

#### NEXT ANNUAL SESSION

##### MOBILE

APRIL 21, 22, 23, 1960





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.

State Health Officer

### THE ALABAMA PUBLIC HEALTH ASSOCIATION

The Alabama Public Health Association was organized in 1956 with the object of protecting and promoting public and personal health in the state of Alabama. It also has the object of furthering acquaintance and mutual understanding among persons interested in public health. The Association is a member of the American Public Health Association and the Southern Branch, American Public Health Association and sends delegates annually to each.

Before the organization of the Association, the Alabama Public Health Workers' Conference was Alabama's only statewide organization devoted solely to public health. Membership in the latter organization was, however, limited to employees of public health departments. There are no restrictions relative to membership in the Alabama Public Health Association. There are three classes of membership. One is open to members or Fellows of the American Public Health Association. A second is open to anyone engaged in any branch of public health work who is not a member or Fellow of the American Public Health Association or to any person who is sufficiently interested in public health to desire affiliation. The third class consists of honorary members. Membership is thus drawn from a wide variety of organizations and includes many private citizens who have no official connection with any public or voluntary agency. (The Alabama Public Health Workers' Conference is still in existence and convenes annually immediately after adjournment of the Alabama Public Health Association.)

The Association is divided into sections for persons having similar, special interests. The Health Officer, Laboratory, Public Health Nursing, Sanitation, and Statistical and Clerical Sections were established when the Association was formed. The Medical Care and Unclassified Sections have been established since that time. Additional sections may be established upon approval of the Executive Board of a petition from the group desiring to form such sections.

As one means of furthering its objectives, the Association meets in annual session at times and places determined by the Executive Board. The

first annual meeting was held at Birmingham in 1957. The 1958 and 1959 sessions were also held in Birmingham.

At general sessions of the annual meeting, outstanding speakers address the group on subjects of broad public health significance. Speakers at the 1959 session included Dr. David E. Price, Assistant Surgeon General, U. S. Public Health Service. Drs. Milton Terris and Ben Freedman, both of Tulane, also addressed the group. Programs for section meetings reflect the particular interests of the various sections.

Officers of the Alabama Public Health Association for the current year are Dr. Otis F. Gay, Madison County Health Officer, president; Arthur N. Beck, Director, Bureau of Sanitation, State Health Department, first vice-president; K. W. Grimley, Executive Secretary, Alabama Tuberculosis Association, second vice-president; and Ralph Roberts, State Registrar of Vital Statistics, secretary-treasurer.

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

### SPECIMENS EXAMINED

June 1959

Examinations for diphtheria bacilli and Vincent's .....	40
Agglutination tests.....	651
Typhoid cultures (blood, feces and urine).....	611
Brucella cultures.....	6
Examinations for malaria.....	43
Examinations for intestinal parasites.....	3,517
Darkfield examinations.....	3
Serologic tests for syphilis (blood and spinal fluid).....	26,557
Examinations for gonococci.....	1,758
Examinations for tubercle bacilli.....	3,639
Examinations for Negri bodies (smears and animal inoculations).....	345
Water examinations.....	2,825
Milk and dairy products examinations.....	4,590
Miscellaneous examinations.....	870

Total 45,455 \*

\*\*This includes 1,455 specimens examined in the Dothan Branch Laboratory during the month of May but the report was not received in time to be included in our May report.

Dothan Branch Laboratory report not received in time to be included in the June report.



## BUREAU OF PREVENTABLE DISEASES

W. H. Y. SMITH, M. D., Director  
CURRENT MORBIDITY STATISTICS  
1959

	May	June	E. E.* June
Typhoid and paratyphoid.....	2	3	6
Undulant fever.....	0	1	2
Meningitis.....	9	6	11
Scarlet fever.....	192	29	24
Whooping cough.....	46	82	64
Diphtheria.....	0	0	5
Tetanus.....	3	5	3
Tuberculosis.....	229	210	217
Tularemia.....	0	0	0
Amebic dysentery.....	2	1	2
Malaria.....	0	0	0
Influenza.....	60	10	87
Smallpox.....	0	0	0
Measles.....	1,105	354	721
Poliomyelitis.....	1	10	24
Encephalitis.....	3	1	1
Chickenpox.....	263	72	75
Typhus fever.....	0	0	1
Mumps.....	59	8	159
Cancer.....	978	505	438
Pellagra.....	0	0	5
Pneumonia.....	218	124	159
Syphilis.....	138	154	171
Chancroid.....	4	3	5
Gonorrhea.....	325	302	364
Rabies—Human cases.....	0	1	0
Positive animal heads.....	7	24	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.



## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director  
PROVISIONAL BIRTH AND DEATH STATISTICS  
AND COMPARATIVE DATA, APRIL 1959

Live Births, Deaths, Fetal Deaths, Infant Deaths, Maternal Deaths, and Deaths by Cause	Number Registered During April 1959			Rates* (Annual Basis)		
	Total	White	Non- White	1959	1958	1957
Live births.....	5998	3810	2188	22.6	22.3	23.9
Deaths.....	2330	1436	894	8.8	9.2	8.9
Fetal deaths.....	125	42	83	20.8	20.7	22.5
Infant deaths—						
under one month.....	119	51	68	19.8	23.9	22.7
under one year.....	184	77	107	30.7	34.3	31.1
Maternal deaths.....	3	1	2	4.9	15.0	6.3
Cause of Death						
Tuberculosis, 001-019.....	17	6	11	6.4	11.4	11.9
Syphilis, 020-029.....	8	2	6	3.0	5.3	1.5
Dysentery, 045-048.....	1		1	0.4	0.4	
Diphtheria, 055.....						0.4
Whooping cough, 056.....	1		1	0.4		0.4
Meningococcal infections, 057.....	1	1		0.4	0.4	
Poliomyelitis, 080, 081.....	1		1	0.4	0.4	0.4
Measles, 085.....	2	2		0.8	2.3	1.5
Malignant neoplasms, 140-205.....	321	242	79	121.1	110.5	111.3
Diabetes mellitus, 260.....	44	22	22	16.6	17.2	11.2
Pellagra, 281.....	1	1		0.4		0.4
Vascular lesions of central nervous system, 330-334.....	302	179	123	113.9	118.5	122.8
Rheumatic fever, 400-402.....	3	2	1	1.1		0.8
Diseases of the heart, 410-443.....	798	519	279	301.1	320.5	302.3
Hypertension with heart disease, 440-443.....	152	61	91	57.3	65.2	59.7
Diseases of the arteries, 450-456.....	49	35	14	18.5	22.1	20.0
Influenza, 480-483.....	9	4	5	3.4	10.3	6.2
Pneumonia, all forms, 490-493.....	57	25	32	21.5	33.2	22.7
Bronchitis, 500-502.....	6	5	1	2.3	2.3	1.2
Appendicitis, 550-553.....	1	1		0.4	0.8	2.3
Intestinal obstruction and hernia, 560, 561, 570.....	16	12	4	6.0	3.8	3.5
Gastro-enteritis and colitis, under 2, 571.0, 764.....	6	2	4	2.3	1.1	2.3
Cirrhosis of liver, 581.....	21	14	7	7.9	4.2	3.1
Diseases of pregnancy and childbirth, 640-689.....	3	1	2	4.9	15.0	6.3
Congenital malformations, 750-759.....	22	17	5	3.7	4.8	5.0
Immaturity at birth, 774-776.....	42	15	27	7.0	7.0	8.3
Accidents, total, 800-962.....	150	106	44	56.6	60.2	63.9
Motor vehicle accidents, 810-835, 960.....	70	53	17	26.4	25.2	31.6
All other defined causes.....	346	184	162	130.5	129.6	140.2
Ill-defined and unknown causes, 780-793, 795.....	102	39	63	38.5	40.0	27.3

Rates: Birth and death—per 1,000 population; Infant deaths—per 1,000 live births; Fetal deaths—per 1,000 deliveries; Maternal deaths—per 10,000 deliveries; Deaths from specified causes—per 100,000 population.

**Report New Index System for Medical Literature—**  
The American Medical Association and the United States Public Health Services' National Library of Medicine in Washington have announced jointly that, beginning Jan. 1, 1960, they will institute a new program for the indexing of medical literature which is estimated at 220,000 articles annually.

The new system, which calls for mechanizing the composition of the index itself, will not only speed up the reference service to physicians but it will also be less costly.

Dr. F. J. L. Blasingame, executive vice president of the American Medical Association, said that this new joint effort by a government agency and a professional society is "a revolutionary step in the speed-up of medical communications which, in the end, will benefit patients everywhere."

Dr. Frank B. Rogers, Washington, D. C., director of the National Library of Medicine, which was established by congressional action in 1956, said the new operation would "lift scientific and medical documentation to new heights of efficiency and usefulness. Physicians will come to know eventually that the National Library of Medicine and the American Medical Association can jointly perform a real service to all who work close, hands and heart, to the problems of disease."

Here, briefly, is how the new indexing system will work:

1. The American Medical Association will discontinue publication of its "Quarterly Cumulative Index Medicus," compiled by the library staff. This index served as an invaluable aid to physicians, teachers, editors and writers, students and libraries since it was started in 1916.

2. The "Current List of Medical Literature," published by the National Library of Medicine, will be expanded in coverage to include currently published medical periodicals not covered in the past by either the National Library or the A.M.A.

3. Beginning with the issue of January 1960, the "Current List of Medical Literature" will appear in a revised format, using improved composition techniques, and will be renamed "Index Medicus." The new "Index Medicus" will be published monthly by the National Library of Medicine, and will be available on a subscription basis through the Superintendent of Documents, Government Printing Office.

4. The A.M.A. will publish annual cumulated volumes of the new index, which will be known as the "Cumulated Index Medicus," beginning with the volume for the calendar year 1960. The A.M.A. will bear the cost of publishing the "Cumulated Index Medicus," independently of the National Library. In publishing this index the A.M.A. will use cumulative copy, in the form of film negatives, prepared and furnished by the National Library of Medicine.

Dr. Rogers said the mechanized system will revolve around a new type camera (Eastman) which is capable of photographing text material at the rate of 230 cards per minute. The camera not only reduces printing costs, he said, but it also speeds up production which is all important because of the pressing need by physicians to have notice of current literature as quickly as possible.

Dr. Rogers said that the savings incurred in the production operation make it possible to expand coverage to currently published medical periodicals not presently covered by any index.



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## AMERICAN MEDICAL ASSOCIATION NEWS

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### SILICON HAIR CURLERS PRESENT OCCUPATIONAL DISEASE PROBLEM

Silicon hair curlers may produce an invisible but terribly painful skin disease among hairdressers, two University of Pennsylvania dermatologists warned recently.

Writing in the August 8 Journal of the American Medical Association, Drs. Walter B. Shelley and Donald M. Pillsbury said the disease consists of excessively sensitive fingertips, although the skin shows no sign of disease.

The sensitivity is due to tiny particles of silica which become embedded in the top layer of the skin, irritating the sensory nerve endings. The particles rub off silica or sand-coated hair curlers, which have replaced plastic curlers in many beauty shops.

The widespread use of these curlers suggests that such an invisible skin disease "may become common among beauticians unless efforts are taken to eliminate this new occupational hazard," the doctors said.

They have seen one case—in a 40-year-old woman, who first noted a marked sensitivity of the fingertips to light touch. This began on the side of the tip of the right fourth finger. Eventually all the fingertips became involved. Pain and inflammatory changes were absent, but exquisite tenderness to touch eventually forced her to stop working.

At first it was thought the patient had a neurologic or vascular condition. Treatment with a variety of local anesthetic and steroid creams was unavailing, the doctors said.

Finally microscopic examination of the fingertips showed the tiny particles embedded in the skin. Then the patient remembered that the condition had begun about the time she had started using sand-coated curlers instead of plastic curlers.

Treatment consisted of removing the very top layer of skin by microsurgery.

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### PIMA INDIANS FOUND TO HAVE LOW HEART DISEASE RATE

Even though they eat high-fat diets, few Pima Indians of southern Arizona develop heart disease, a new study has indicated.

Two other Indian tribes—the Sioux and Navaho—have also been found to have low rates of arteriosclerotic heart disease in spite of high-fat diets.

These findings are in contrast to those among other population groups where a high-fat intake

is proportional to a high rate of heart disease and the fat is believed to play a role in the development of the disease.

The Pima Indians' health problems were studied extensively by Dr. Frank G. Hesse, formerly with the U. S. Public Service Hospital at Sacaton, Ariz., and now with the State University of New York Upstate Medical Center, Syracuse, N. Y.

The study showed that while the Pimas have a low heart disease rate, they have a high rate of gallbladder disease and a very low rate of peptic ulcer.

Writing in the August 8 Journal of the American Medical Association, Dr. Hesse said that during a two-year period there were three cases of myocardial infarction definitely diagnosed among the 2,688 Pimas who were above 15 years of age. Three others were suspected of having myocardial infarctions, but one showed another heart condition on close examination and two died before a definite diagnosis was made.

The high rate of gallbladder disease and the low rates of heart disease and peptic ulcer (none was found in the two-year period) in a relatively inbred tribe is difficult to explain on the basis of the currently suspected causes of the diseases, Dr. Hesse commented.

This is especially true of the role of diet, which consisted mainly of beans, tortillas, coffee and hot chili peppers, with meat and vegetables eaten about once a week, and all food fried in lard. The diet is not thought to predispose to gallbladder disease, he said.

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### NEW TREATMENT OUTLINED FOR ESOPHAGEAL LYE BURNS

The serious consequences of swallowing lye can be prevented by the use of antibiotics and artificial hormones, according to two Delaware doctors.

In fact, the treatment—combining tetracycline and prednisone—produced "uniformly good" results in 13 children who had swallowed lye-containing substances.

Lye, which burns the esophagus when swallowed, is the fifth leading cause of poisoning among those under 19 years of age, Drs. Charles L. Miller and Robert O. Y. Warren, Wilmington, said in the July 25 Journal of the American Medical Association.

After the lye is swallowed, the esophagus becomes swollen and inflamed, which interferes with swallowing. This is followed by a period of normal swallowing until scar tissue gradually forms and obstructs the esophagus. Untreated,



the esophagus completely closes and the patient dies of dehydration and starvation.

Until recently, treatment consisted of surgery or the mechanical opening of the esophagus.

Now the daily oral doses of antibiotics and steroids help heal the burns and prevent the development of scar tissue.

The antibiotic is used to prevent infection in the burned area. Prednisone, a derivative of cortisone, speeds healing through its effect on the glandular system, which controls the body's reaction to such stresses as burns.

Feeding tubes were used for the first three days. After that the children ate soft diets for three weeks before returning to general diets.

None of the 13 children showed any narrowing of the esophagus after treatment. Follow-ups three months to three and a half years later also showed no subsequent narrowing.

In conclusion the doctors said, "Despite the fact that the more severe consequences of lye ingestion can be averted with proper and early treatment in most cases, it is still a serious problem.

"The real answer lies in the field of prevention, especially through dissemination to the public of information about the dangers inherent in leaving poisonous substances within the reach of children."

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#### **SIMPLE PAPER TEST SHOWS ANTIBIOTIC EFFECTIVENESS**

A piece of paper that turns red under certain situations can now be used by doctors to decide what antibiotic to give for an infection.

The simple test involves the use of filter paper impregnated with a chemical that turns the paper red when bacteria grow on it. It is described in the July 25 Journal of the American Medical Association.

The test works this way: The filter paper is divided into several areas. Small quantities of individual antibiotics are placed in each division. Then the paper is swabbed with infectious material taken from the patient. The paper is sealed in a plastic bag and heated.

If an antibiotic inhibits the growth of the bacteria causing the infection, the paper remains white. But if an antibiotic does not work against the bacteria, the bacteria grow and the paper turns red.

The doctor then knows that the drug to give the patient is the one that keeps the paper white. The time required for the test depends on the number of organisms in the infectious material, but it usually ranges from three to 12 hours.

According to the authors of the article—Wayne L. Ryan, Ph. D., Howard J. Igel, B. S., and Perry T. Williams, M. D., Omaha—the test is simple and rapid enough to be used in a doctor's office,

where the majority of patients with infections are treated.

The bacteria-inhibiting abilities of antibiotics are regularly tested in hospital laboratories by the use of test tube and agar plate tests, but these are time consuming, complicated, and expensive.

The authors feel that their test is easy to read, accurate, convenient, and relatively inexpensive.

The test was used in 100 cases of frank or suspected bacterial infections in a normal office practice. Infections included boils, tonsillitis, abscesses, sinusitis, urinary tract infections, and several others.

In 76 cases antibiotic treatment was initiated on the basis of experience before the results of the sensitivity test were available. Treatment in the remaining 24 cases was begun after the tests were completed.

Of the 76 given immediate treatment, only 23 showed sufficient improvement within two days to warrant continuation of the first antibiotic. Fifty-three were changed to the drugs indicated by the test paper and began improving.

Of the 24 patients treated after the tests were run, 14 showed excellent to good results from the drugs indicated by the test paper. In the other 10, the test papers showed no bacterial growth, apparently because the infections were not caused by bacteria.

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#### **MYTHS ABOUT PREGNANCY EXPLAINED, REFUTED**

If you eat ice cream, the baby inside of you will catch cold.

If you want a boy, eat peanuts and alkalies; for a girl, eat sweets and acids.

If you have heartburn, the baby will have lots of hair.

These are just some of the old wives' tales that plague pregnant women. They exist because occasionally coincidence seemingly makes one come true, according to an article in the August Today's Health, published by the American Medical Association.

Mrs. Joan S. Pollack, a University City, Mo., mother, pointed out that the major hazard in passing on such tales is that the pregnant woman seems to be especially imaginative. She is concerned with protecting her child and is only too likely to be scared by the myths.

Among the myths are:

—Broad-hipped women have easier deliveries than those with narrow hips. This belief can't hurt, Mrs. Pollack noted, even though it is the internal, not external, measurements that determine ease of delivery.

—If you eat lobster, you will mark the baby. To which Mrs. Pollack replied, "If I drink milk, will my baby look like a cow?"



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## DEEDS, NOT WORDS, FOR AMERICA'S AGED

LOUIS M. ORR, M. D.

President, American Medical Association

Orlando, Florida

The other day I came across an article in the March 27th edition of the Arizona Republic which I thought you might find interesting. It was written by Julian DeVries and concerns American medicine and socialism.

In the article Mr. DeVries recalls the old folk tale about the rabbit or chicken that is hypnotically transfixed by a snake to prevent the prey from escaping.

"It sounds a bit far fetched," he says, "but the analogy is a good one when applied to the medical profession vs. socialized medicine.

"From every doctor's office in the land there come medical moans about how socialized medicine is creeping up on 'em. But, like the rabbit or the chicken, they just sit there and wait for the socialized snake to snap 'em up."

Mr. DeVries notes the reintroduction in Congress of the Forand Bill which would provide federal subsidy for the hospital and surgical care of the aged.

He points out that there are several similar plans today, both inside and out of Congress.

"All these read very nice on paper," he continues, "and you'd think the docs would go for it big as a sure income gimmick. Because if you think the magazines in the average doctor's waiting room are old, you should see the dates on a lot of his unpaid bills. But it doesn't work that way.

"The average U. S. medico is among the most individual of individualists. No one, but no one, tells him how to practice medicine unless they're looking for a fat lip. And subsidized, socialized or any other sort of -ized medicine amounts to someone telling him what to do and how to do it. They might be able to get away with that racket abroad,

Delivered before the Association in annual session, Birmingham, April 10, 1959.

but the American doctor is a very different breed of cat. *And so are his fellow Americans.*

"Specialized or subsidized medical care," the author continues, "is charity medical care, and I like to think Americans still have enough self-respect and pride not to want charity as long as other avenues of self-help are open to them. There are many private health insurance plans to choose from, like Blue Cross and Blue Shield. And the cost of any of these plans figures out to less per annum per person than government medical care would cost in taxes. And that, mayhap, is where medicine men may be missing the boat."

This article, I believe, contains several points worth considering. The first is that we cannot sit back, quaking with terror in the face of undesirable legislation. The second is that we are not alone in our fight, but rather that we have many allies. However, Mr. DeVries failed to mention that American medicine is taking positive action to avoid the evils of state interference.

Certainly one of our most urgent goals, one which continues to magnify in importance as the years pass, concerns health care for the aged. To meet this challenge, the American Medical Association has set into motion a positive, forward-stepping program designed to help the aged help themselves.

Last December the AMA House of Delegates spearheaded the plan by unanimously calling on physicians to provide medical services at reduced rates for persons 65 or over with modest resources and reduced incomes. State medical societies were called upon to implement this plan on their own level.

Because our program is for *all* old people, we need public support and acceptance.

Unfortunately, the AMA has been distracted from its positive program by proponents of infe-



rior ones, the basis of which is government abrogation of the rights of the medical profession. Specifically, our attention is currently diverted by legislation introduced in Congress which would expand the Social Security law to include hospital (and perhaps medical and surgical) benefits to most Social Security beneficiaries. Although the proposal died last year, it has been reintroduced again this term by Representative Forand of Rhode Island.

The AMA is opposed to this bill because it is in direct opposition to the measures called for by our own program. Also, we feel it is based on a faulty approach to the problem of how to care for the aged.

On one hand we have the AMA program, with its roots steeped in *individual responsibility, voluntary action, community initiative, physician cooperation, and a realistic attitude* by every American to the entire aspect of growing old. Such a program is attuned to the traditional American independence. There is no compulsion, no political interference, no dependency on the government.

On the other hand, however, is a measure which, in effect, would legislate the elderly into a state of permanent dependence. The federal government would exercise full control, financing the plan through stepped-up taxation.

Without sufficient information on the subject, some people might regard such legislation as worthy of consideration. But aside from a few partisans, I am afraid that anyone who would endorse such a measure must be under the impression they would be getting something for nothing. Unfortunately, such is not the case.

Philanthropy is fine, when it is the philanthropist's money that is being spent. But some Americans are addicted to the curious philanthropy of spending other people's money, as well as obligating future generations to pay the debts acquired today.

The attitude of something-for-nothing reminds me of the king whose domain was troubled by a shaky economy. He summoned his wisest counselors and commanded them to prepare a simple text on economic principles which could be understood by all the people.

A year passed before the wise men returned, bearing with them 67 ponderous volumes, replete with graphs, charts, diagrams and pictures. The king started to throw up his arms in desperation when the solution to the problem suddenly arrived. It came in the form of an old patriarch who summed up his economic theories with the words:

"There ain't no such thing as a free lunch."

Many backers of the Forand Bill seem to think the financing problem involved in such legislation would be insignificant. Insurance experts, however, have estimated that the cost of health care benefits called for under the Forand Bill could exceed 2 billion dollars. This figure would necessitate raising the total Social Security payroll tax to more than 11 per cent.

The effect then of such legislation would be to force that part of the population under 65 years old to finance an indeterminate amount of health care for those over 65.

As I have pointed out, your AMA has a far superior program, one which will help the aged help themselves. Such a program embraces all aspects of aging—not just the health and physical needs but the social, economic and psychologic requirements.

Years ago the AMA formed a committee on geriatrics, following the recommendation of the House of Delegates. At its first meeting, however, the committee decided that it could not limit its scope to problems involved in the diagnosis and treatment of older patients. It recognized that practically no diseases are specifically or exclusively diseases of old age, and the committee members saw they had to think in terms of both the sick and the healthy. It defined its province as all aspects of the aging process—physical, mental, social, occupational, emotional, cultural and economic. Its name was changed to the Committee on Aging.

Since that time, in coordination with other committees on indigent care, medical facilities and health insurance and prepayment plans, the AMA Committee on Aging has developed an expanding, intensified program of activities.

The problem we are faced with at this moment is two-fold: (1) to provide leadership and imagination for a multiphased approach to health care of the aged, and (2) the defeat of an unsound bill in Congress which would place sick old people at the mercy of a bureaucratic system.

The response by state societies to the action of the House of Delegates has been most encouraging. Official groups from West Virginia, New Jersey, Texas, Florida, Iowa, Ohio, California, Michigan and other states, have acted decisively on the AMA policy recommendation. Also, 34 state medical societies will give the matter top priority at their annual meetings this spring.

One of our major objectives in the field of aging is to extend and improve voluntary health insurance, which already protects more than 40 per cent of people over 65. For several years the AMA has been urging experimentation in special types of coverage for the aged, and since June of 1958



it has intensified its liaison efforts with Blue Shield, Blue Cross, insurance companies and other agencies in the prepayment field.

The AMA is working closely with commercial insurance organizations to encourage the development of new insurance programs and expansion of existing lower cost protection for persons over 65. Already, some companies have introduced guaranteed renewable contracts, "paid-up-at-65" and "65-plus" policies.

In addition to all this, the Health Insurance Association of America has asked its member companies to offer: (1) policies guaranteed renewable for life; (2) coverage for persons now over 65; (3) coverages that will continue after retirement, and (4) inclusion in the group contract of the right to convert to an individual contract on termination of employment.

Developments in this area are moving at a rapid, accelerating pace. The Health Insurance Association also estimates that 60 per cent of our senior citizens will have protection by the end of next year. The figure will rise to a predicted 75 per cent in 1965 and 90 per cent by 1970, but actual growth may exceed these conservative estimates.

Financing mechanisms are not the only means of solving problems of health care for the aged. We are also concerned with reductions in the costs of services.

One alternative is the nursing home. We believe there is an urgent need for facilities designed specifically to fit the health requirements of the elderly. Your AMA not only approves but also vigorously supports a government-insured loan program of the FHA type for non-governmental hospitals and nursing homes, whether their ownership is non-profit or proprietary. We also have urged changes in the Hill-Burton Act to enable states to put more money into non-profit nursing homes.

We look forward to the development of alternatives to institutional care for the aged. Among these are home care programs and homemaker services. These services have a common purpose: to reduce the length of hospital and nursing home care by permitting earlier discharge of patients or to avoid the need for such institutional care.

Meanwhile, the AMA is planning for the future in all aspects of the aging problem. All state medical societies have been urged to cooperate actively in the development of state conferences on aging which will precede a White House Conference on Aging in January 1961. Your Association is working closely with the U. S. Department of Health, Education, and Welfare in this whole program.

A highlight of the AMA annual meeting in Atlantic City this June will be a special scientific session on the medical aspects of aging. The Association is pushing distribution of a new health appraisal for stimulating increased physician participation in health maintenance programs. And the AMA itself will sponsor a national conference on aging for medical, paramedical and lay groups at some time in the near future.

These are some of the many reasons which can leave no doubt about the AMA stand on the subject of health care for the aged. The AMA is working hard to provide leadership for a concerted, positive, voluntary program for all older citizens of our nation.

All of us share the social responsibility and obligation of providing for our aging population the chance to lead productive and rewarding lives.

It would be foolish for us to think we can reach all our goals overnight. We cannot. But progress is being made, and we intend to continue on the road of progress until every obstacle is overcome.

American medicine has a bold, progressive program that outshadows all other attempts to deal with this mammoth problem. Our program is one that will accomplish positive, constructive results, without compromising the dignity or freedom of those it helps.

I feel we have a right to be proud of what we are doing for America's aged. As with all social and scientific progress, the results will not be seen immediately but will be judged by future generations.

Perhaps in our approach to the subject of aging, we might keep in mind the words of an unknown author who said:

"Youth is not a time of life. It is a state of mind. It is not a matter of ripe cheeks, red lips and supple knees; it is a temper of the will—a quality of the imagination—a vigor of the emotions. Nobody grows old by merely living a number of years—people grow old only by deserting their ideals. Years wrinkle the skin, but to give up enthusiasm wrinkles the soul. Worry, doubt, self-distrust, fear and despair—these are the long, long years that bow the heart and turn the green-spring spirit back to dust. Whether 60 or 16, there is in every human being's heart the lure of wonder, the undaunted challenge of events, the unfailing child-like appetite for what next, and the joy of the game of living. We are as young as our self-confidence, as old as our fear; as young as our desire, as old as our despair."



# THE CONTROVERSIAL THYROID NODULE

## AN APPRAISAL

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There has been intense interest in the subject of thyroid carcinoma during the past decade and a great deal of information about this disease has been developed. There still exists, however, a wide difference of opinion regarding the incidence of the disease, the approach to nodular goiter, and the management of thyroid carcinoma. Of course, many questions remain unanswered, but it is the purpose of this discussion to outline an approach to the problem in the light of the present accumulated data.

### INCIDENCE OF THYROID CARCINOMA

Our information regarding the statistical incidence of thyroid carcinoma comes from prevalence and death rates, from examination of surgically excised goiters, and from autopsy specimens. For the year 1947 a careful study of ten scattered metropolitan areas in the United States indicated that the incidence of thyroid carcinoma was 2.4 per 100,000 population.<sup>1</sup> In 1955, there were 1064 deaths from thyroid carcinoma as compared with 21,945 from carcinoma of the breast; for deaths from thyroid cancer this is a rate of 0.6 per 100,000 population.<sup>2</sup> Dr. Klopp in Washington, where one has access to the analysis of physical examinations on a large number of adults in that area, finds that 1% of the local adult population has nodular goiter and there is a 9% incidence of carcinoma in the George Washington group of operated cases.<sup>3</sup>

Dr. Mortensen of the Mayo Clinic reported an interesting study of 1000 consecutive autopsies on individuals who clinically had normal thyroids. There was an incidence of nodularity of the thyroids, as determined by the pathologist on gross examination, in 25% and on cut sections nodules could be found in an additional 25% of the cases. The frequency with which nodules occurred increased with age. Occult carcinoma occurred in 4.2% of nodules in autopsies with clinically normal thyroids, which represented a 2% incidence in their autopsy series in which the clinical evalu-

ation of the thyroid gland was normal.<sup>4</sup>

Dr. Queen in Oregon has been serially sectioning thyroids that are otherwise normal at autopsy and has found a 6% incidence of focal carcinoma.<sup>3</sup>

These unusual statistics raise certain points. It is obvious that our detection of thyroid nodules by the present means of examination has its limitations but information such as this poses two interesting questions:

First, is thyroid carcinoma a relatively innocuous disease that remains dormant without producing clinical disease or death? This question cannot be answered at the present time but an effort is being made in that direction. One of the more illuminating studies on the natural history of thyroid carcinoma is being compiled by Dr. Winship through the Childhood Thyroid Cancer Registry. Over 400 cases of childhood thyroid carcinoma have been collected and thus far 17% of the entire group have died of their disease and almost 40% are known to be living with disease. Of the children who have died, 65% of the deaths were caused by tumors of a papillary element, 22% by follicular carcinoma, and 13% by undifferentiated carcinoma. Of the patients living more than 10 years, 74% were papillary, 18% follicular and 8% undifferentiated.<sup>5</sup>

The second question that these reports about thyroid carcinoma raises is: Is the incidence of thyroid cancer increasing? Without any doubt, diagnosed carcinoma is increasing. Statistics from the New York State Department of Health show that the incidence of thyroid carcinoma doubled during the period 1940 to 1950, as compared with the previous decade. Statistics reporting the incidence of carcinoma in surgical specimens at the Mayo Clinic have gone from 1.6% to 4.8%, at the Massachusetts General Hospital from 3.2% to 10%, and at the Crile Clinic from 1.6% to 8%.<sup>6</sup>

At the Lahey Clinic Dr. Cattell reported in 1953 a jump in the incidence of thyroid cancer for the two preceding years in single nodules from 10%

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Read before the January 1959 meeting of the Birmingham Surgical Society.

1. Mustacchi, P., and Cutler, S. J.: Some Observations on the Incidence of Thyroid Cancer in the United States, *New England J. Med.*, Nov. 8, 1956.

2. Vital Statistics of the United States, Volume 2, 1955.

3. Anglem, T. J.; Cattell, R. B.; Chapman, E.; Frantz, V. K.; Klopp, C. T., and Vanderlann, W. P.: Problems in Thyroid Cancer. Symposium on Cancer of the Head and Neck, Annual Scientific Session, American Cancer Society, Inc., Oct. 28-29, 1957.

4. Mortensen, J. D.; Woolner, L. B., and Bennett, W. A.: Gross and Microscopic Findings in Clinically Normal Thyroid Glands, *J. Clin. Endocrinol.* 15: 1270, Oct. 1955.

5. Winship, T., and Chase, W. W.: Thyroid Carcinoma in Children, *Surg., Gynec. and Obst.* 101: 217, August 1955.

6. Zimmerman, L. M., and Wagner, D. H.: Carcinoma of the Thyroid Gland: Its Incidence of Relation to Nodular Goiter, *Trans. American Goiter Association*, 287, 1953.



INCREASING INCIDENCE of CA of THYROID in NODULAR GOITER in SAME INSTITUTIONS

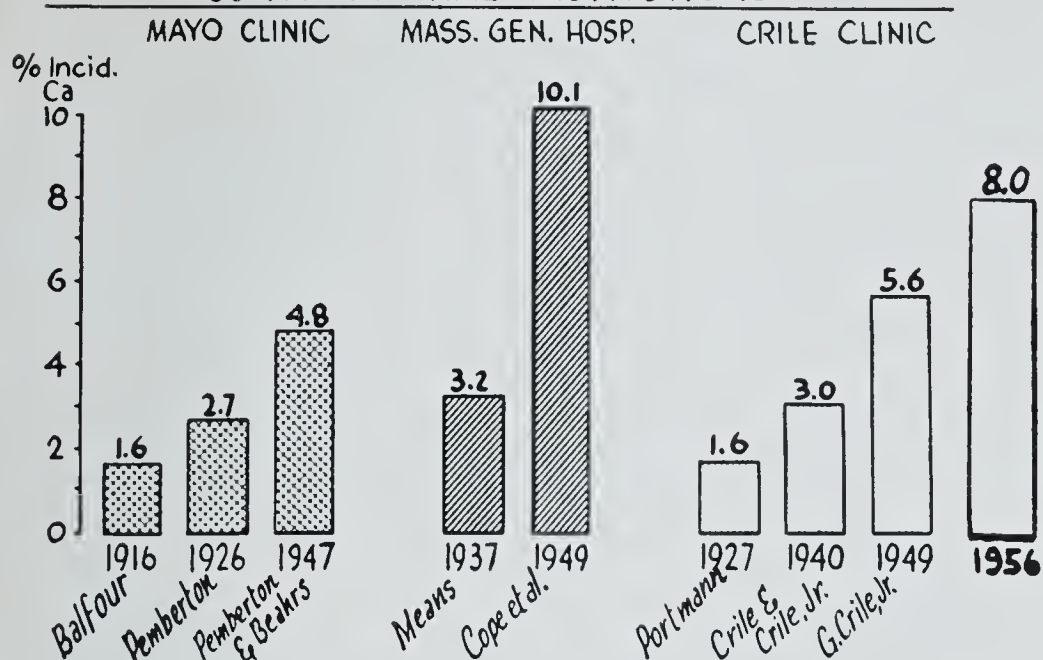


Figure 1

INCREASING INCIDENCE OF THYROID CARCINOMA IN NODULAR GOITER IN SAME INSTITUTIONS

Lahey Clinic

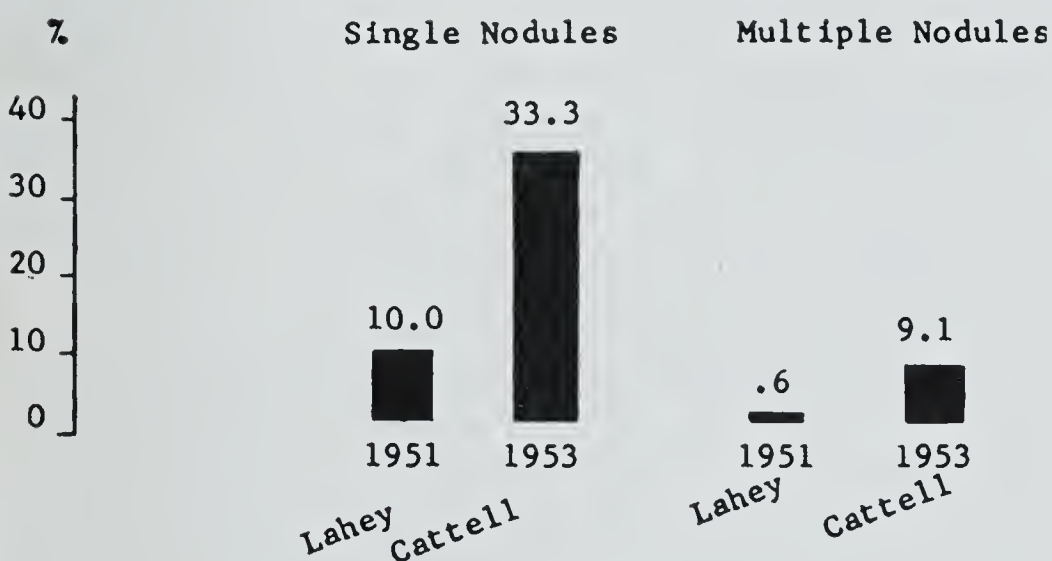
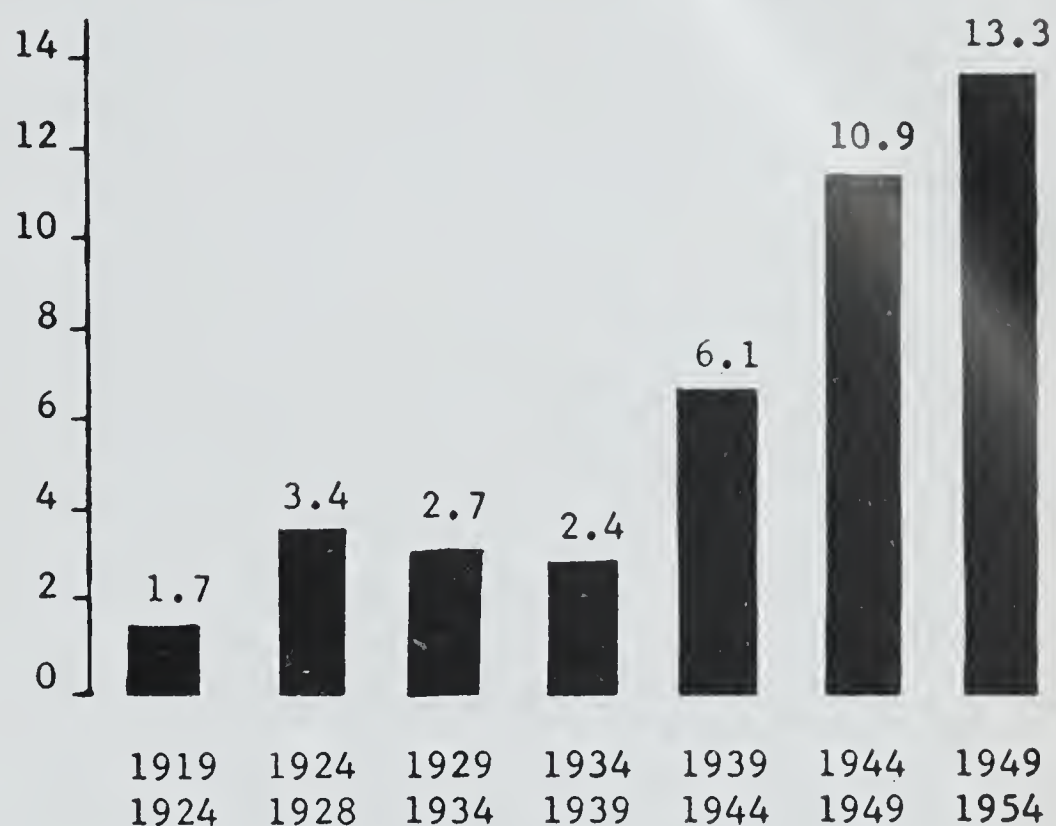


Figure 2

INCREASING INCIDENCE OF THYROID CARCINOMA IN NODULAR GOITER IN SAME INSTITUTIONS

University of California Hospital



Percentage of Malignancies in Nodular Goiter

Figure 3

GEOGRAPHICAL INCIDENCE OF CARCINOMA IN NON-TOXIC NODULAR GOITER

Author	Year	Location	Single	Multiple
Lahey	1951	Boston	10.4	.62
Cole	1950	Chicago	24.4	9.8
Crile	1950	Cleveland	24.5	3.4
Bears	1951	Rochester		3.8
Ward	1944	San Francisco	15.6	4.8
Young	1950	Oklahoma	18.2	9.4
Cope	1950	Boston	19.0	10.1
Ochsner	1952	New Orleans	19.8	12.8
Cattell	1953	Boston	33.3	9.1

Figure 4

to 33% and in multiple nodules from .61% to 9.1%.<sup>7</sup>

Dr. Searls at the University of California School of Medicine has reported a progressive rise in the 5-year totals of the incidence of carcinoma in surgical specimens from 1.7 in the early twenties to 13.3 in the early fifties.<sup>8</sup>

A CLINICAL APPROACH TO NODULAR GOITER

Since our clinical means of reaching an accurate diagnosis of thyroid cancer are unreliable, how do we decide which nodular goiters should be operated on because of the suspicion of malignancy? I think it is generally agreed that all palpable solitary nodules should be removed, as various large clinics report a statistical incidence of carcinoma from 7% to 33% in single nodules.

7. Cattell, R. B., and Colcock, B. P.: The Present Day Problem of Cancer of the Thyroid, Trans. American Goiter Association, 323, 1953.

8. Searls, H. H.: Cancer of the Thyroid, Presented at the meeting of the Pan-Pacific Surgical Association in Honolulu, October 1954.

It is well to point out that these statistics vary depending on whether one speaks about clinical appraisal of the solitary nodule, the more accurate evaluation of the gland at the time of operation, or the determination of the single nodule by the pathologist. Anglem has evaluated his series of 563 cases of "single nodules" and, including the cases in which the preoperative appraisal was a single nodule, the incidence of carcinoma was 6%, when the series was limited to single nodules as determined at operation the incidence was 9%, and when restricted to the single nodules as determined by the pathologist on cut sections it was 25%. The statistics from the large clinics apparently refer to the dominant lump at operation as being the single nodule.<sup>3</sup>

If one takes the experience in the literature with nodular goiter in children, the incidence of carcinoma is 30%, so it is agreed that all thyroid nodules in children should be removed.<sup>5</sup>

The statement is made repeatedly in articles on thyroid cancer that all nodular goiters in men should be removed. The only statistics I have ever



THYROID NODULE

Author	Year	Location	NODULAR GOITER IN CHILDREN		
			Non-toxic Nodular Goiter	Carcinoma	Percentage
Pemberton	1944	Rochester	53	18	34%
Ravdin	1951	Philadelphia	62	19	31%
Ward	1944	San Francisco	10	4	40%
Kennedy	1940		62	12	19%
Hendrick	1951	San Antonio	31	8	26%
Ochsner	1952	New Orleans	15	4	27%
Winship	1955	Washington	8	4	50%
Dailey	1950	California	19	10	53%
			260	79	30%

Figure 5

seen are from the Wheeling Clinic in West Virginia where 10.5% of the multiple nodules and 14% of the single nodules were malignant.<sup>9</sup> Assuming these figures to be representative, I would favor the removal of all nodules in men.

This brings us to a consideration of what to do with the large group of women with multinodular goiter in which the incidence of carcinoma is variously reported from 1 to 10%. (It has been postulated that this incidence may increase slightly as endemic goiter areas are erased.) It is certainly debatable how much good would be accomplished by routine thyroidectomy in this group of cases. I would prefer to individualize the problem and would favor removal of goiters that show an increase in size, those producing pressure symptoms, and those in the under 30 age group. It is admitted that it is impossible to prejudge the nature of a nodule on the basis of duration of the lesion or the character on palpation. The small asymptomatic multinodular goiter in the middle or older age group I would either follow or treat with thyroid extract.

PATHOLOGY OF THYROID MALIGNANCIES

PATHOLOGIC TYPE OF CHILDHOOD AND ADULT THYROID CARCINOMA

Cell Type	Adults		Children	
	No.	%	No.	%
Papillary Ca.	89	15	21	16
Papillary and Follicular Ca.	184	31	41	31
Follicular and papillary Ca.	89	15	23	18
(Cases showing papillary element)		(61)		(65)
Follicular Ca.	102	17	26	20
Hurthle Cell Ca.	107	18	19	15
Lymphoma	7	1	0	0
TOTAL	596	100	130	100

Figure 6

Figure 6 shows the types of thyroid carcinoma and their relative frequency.

9. Hershey, C. D.: Thyroid Carcinoma and Nodular Goiter in a Community Hospital, Arch. Surg. 76: 407-411, 1958.

It should be emphasized at this point that these groupings according to pathologic cell types are for the convenience of discussion and in no way imply a predictable course for any individual tumor. As will be pointed out later, those individuals studying these tumors by subserial paraffin sections find that many of these lesions often contain papillary, follicular, and solid elements both in the primary stage and the metastasis. This figure serves to point up that the cell type in children is not particularly different from that in adults, contrary to the belief that these malignancies in children are by and large papillary carcinomas.

Prefacing our comments about the pathologic types with these remarks, the following general statements may be made.

The papillary adenocarcinoma constitutes the most frequently encountered type and represents 45 to 60% of the cases reported. This type may be seen in any age group and includes the group of papillary neoplasms which were formerly called lateral aberrant thyroids presenting as lateral cervical masses with small or non-palpable thyroid primaries. Fifty per cent of the primaries are less than 1 cm. in diameter. This tumor tends to spread to the homolateral cervical lymph nodes (50 to 85%) and occasionally by way of the blood stream to the lungs and bone.

Follicular or alveolar carcinoma, which constitutes 20 to 35% of the series, occurs primarily from the 4th through the 7th decade. It tends to invade its capsule early and invades locally the adjacent thyroid gland. This variety tends to spread to the lymph nodes in about 50% of the operative cases, to the lungs in 33%, and to the bone in 17% as determined by follow-up study.

Hurthle-cell carcinoma (3%) is considered by most pathologists a type of follicular carcinoma; its route and frequency of metastasis are similar.

Undifferentiated carcinoma (15 to 20%) includes the giant cell, small cell, and solid adenocarcinomas. This lesion is seen most frequently in the older age groups (6th through 8th decade). The lesion grows rapidly and can frequently be diagnosed preoperatively. Early metastasis by way of the lymphatics and through the blood stream is the rule. Metastasis goes to the cervical lymph nodes (50 to 60%), to the lungs (45%), and to the bone (25 to 35%).

Miscellaneous malignancies of the thyroid include lymphosarcoma, fibrosarcoma, squamous cell carcinomas and metastatic lesions.

As our knowledge of the biologic potential and variability of individual thyroid tumors increases, I think time will show that we must follow the relatively slow-growing papillary lesions 20 to 25



years to determine not only their natural history but to evaluate any mode of treatment. In the case of the undifferentiated carcinomas the course is often predetermined before any therapy is initiated. It is probable that mainly in the thyroid carcinomas of intermediary malignancy, and possibly the papillary lesions capable of hemotogenous spread, it is important to effect early diagnosis and treatment.

CANCER OF THE THYROID

CANCER OF THE THYROID  
CUMULATIVE SURVIVAL RATE

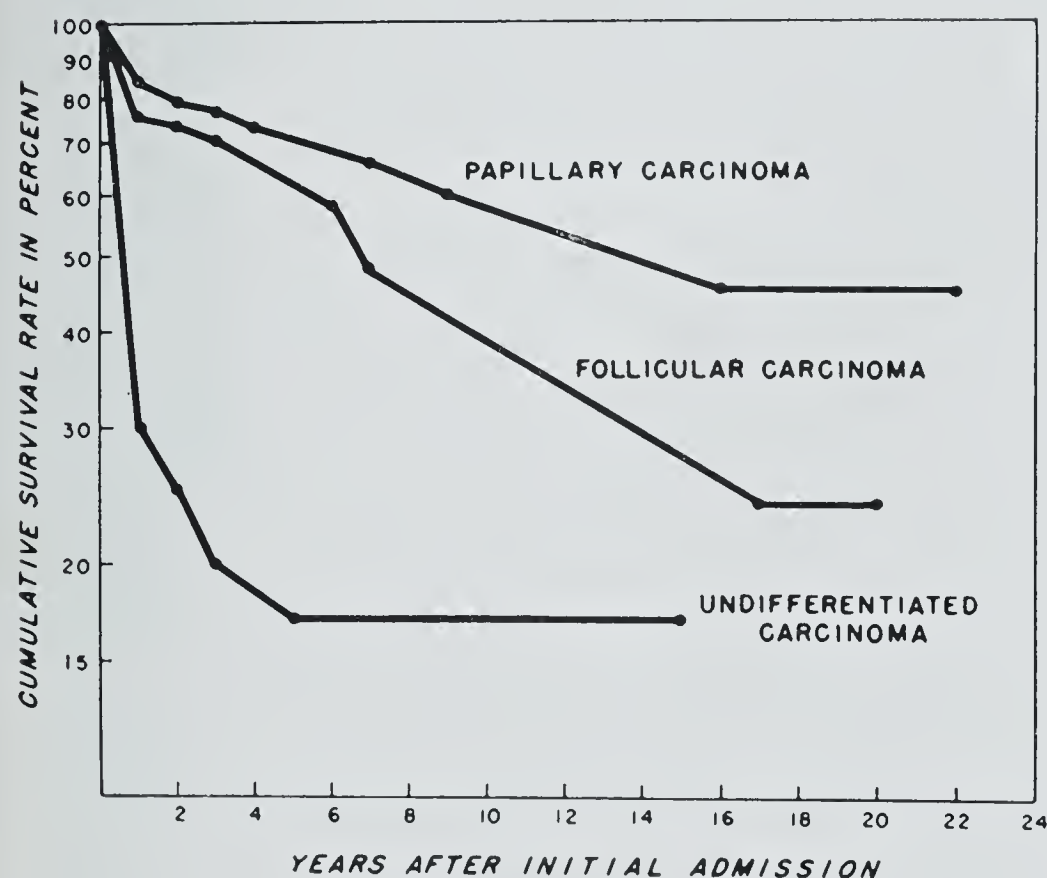


Figure 7

Figure 7 depicts the cumulative survival rate for 190 cases of thyroid carcinoma seen at the Massachusetts General Hospital where the policy over the 20-year span (1931-1951) was to remove the gross tumor, doing neck dissections when the nodes were clinically positive.<sup>10</sup>

Cumulative Survival	5 Years	10 Years	20 Years
Papillary	73%	60%	45%
Follicular	71%	48%	24%
Undifferentiated	17%	17%	17%

OPERATIVE APPROACH TO NODULAR GOITER

Armed with this general information regarding the behavior of thyroid carcinomas, how are we going to approach technically the solitary or the multinodular goiter in which carcinoma is suspected? I feel that the nodule should be approached as if it might be carcinoma and, when dealing with a solitary nodule, a total lobectomy and removal of the isthmus should be performed, and the tissue submitted for frozen section study. When dealing with a multinodular goiter, a total lobectomy on the dominant side and a subtotal lobec-

tomy on the opposite side should be performed, preferably without dividing the isthmus.

In order to carry out adequate initial surgery, it is desirable to reach a positive diagnosis at the time of operation. Our pathologists are perhaps more accurate than we realize with the frozen section detection of the papillary and undifferentiated lesions; the nature of the follicular lesions is usually distinguishable but may be quite difficult to determine on frozen section. If errors are made, they are made in calling a low grade malignancy benign, so when we are given the diagnosis of carcinoma, we can proceed with definitive treatment. Several large clinics now report an accuracy of diagnosis on frozen section study of thyroid tissue of 95%; Dr. Cunningham (Birmingham) recently reported an accurate diagnosis in 44 of 45 instances.

I would like to emphasize the importance of doing a lobectomy initially for a single nodule instead of simple enucleation, which is done in some quarters. My reasons for this opinion are twofold: (1) Many times you will be cutting across the primary tumor even though you grossly remove the nodule. Dr. Frazell at Memorial Hospital has reported that, of the cases of thyroid carcinoma referred to them after a simple enucleation of an "adenoma," 50% have shown residual cancer in this lobe. (2) If one is going to avoid the very undesirable complication of postoperative tetany, he has a much better opportunity of identifying and preserving parathyroid bodies at the time of initial surgery.

Given the situation where the nodule in a lobectomy specimen is reported as papillary adenocarcinoma on frozen section study, should one perform additional surgery?

Dr. Crile, who is a proponent of conservative surgery for thyroid malignancy, after performing a lobectomy explores the neck and mediastinum through his thyroid incision and removes all the jugular and paratracheal lymph nodes as is practical, preserving the sternocleidomastoid muscle. Dr. Crile believes that, if the primary tumor is completely removed, then this disease does not seem to spread from the remaining lymph nodes. He places his patient on 3 gr. of thyroid, and 87% are living and well after 5 years.<sup>11</sup> (I might include here that Dr. Crile classifies his thyroid tumors, not according to the predominant type, but according to the most malignant element.) Dr. Bears reported the Mayo Clinic results of 136 cases of papillary carcinoma of the thyroid gland treated where lobectomy or subtotal thyroidectomy and modified neck dissections were performed where

10. McDermott, W. V.; Morgan, W. S.; Hamlin, E., and Cope, O.: Cancer of the Thyroid, Trans. American Goiter Association, 413, 1954.

11. Crile, G., Jr.: Results of Conservative Operations of Thyroid Malignancy, J. Clin. Endocrinol. 15, Nov. 1955.



indicated. Their 5-year survival rate was 97.0%, the 10-year rate was 87.9%, and the 15-year rate was 75.5%. (It should be mentioned here that not included in this group reported were 14 cases of papillary carcinoma that were considered inoperable and 24 cases of papillary carcinoma that upon restudy showed areas of angioinvasive follicular and solid carcinoma.<sup>12</sup>)

Since 1946 Dr. Frazell and the Memorial group, who have had a less happy experience with papillary carcinoma, have performed routine radical neck dissections whether nodes could be felt or not. In 1955 they reported their experience with 182 consecutive radical neck dissections, 18 of which were dissected bilaterally. In 104 cases with clinically positive nodes and 11 cases with doubtful nodes, 115 specimens (or 96%) yielded pathological confirmation of metastasis. Pathological study revealed an impressively high rate of undetected node metastasis in neck dissection specimens from 67 patients having no clinical signs of cervical node involvement. One or more node groups were involved by metastatic tumor in 41 of these 61 specimens (or 61.2%). Thus, in 182 radical neck dissections for papillary thyroid carcinoma, the overall cervical node involvement rate was 84.6%.<sup>13</sup>

It is of interest, particularly to those who do modified neck dissections, to show the pattern of metastasis to the cervical nodes.

PATTERN OF LYMPH NODE METASTASIS

<u>Node Area</u>	<u>115 Clinically Positive %</u>	<u>67 Clinically Negative %</u>
Submaxillary	9.7	1.5
Upper Jugular	61.	19.
Mid. Jugular	76.	30.
Lower Jugular	76.	33.
Spinal Acc.	36.	6.
Juxta Thyroid	32.	13.
Mediastinal	6.	0.

Figure 8

Figure 8 shows the predominate spread to the upper, mid, and lower jugular nodes but there is also an appreciable incidence of spread to the juxta-thyroid area and along the spinal accessory nerve. Dr. Cattell does not include the submaxillary triangle in his neck dissections. The incidence of involvement of this area in Dr. Clark's series at the M. D. Anderson Hospital in Houston is 12% and 10% in the Memorial series.

12. Bears, O. H., and Woolner, L. B.: The Treatment of Papillary Carcinoma of the Thyroid Gland, Surg., Gynec. and Obst. 108: 43, 1959.

13. Frazell, E. L., and Foote, F. W.: Papillary Thyroid Carcinoma: Pathological Findings in Cases with and without Clinical Evidence of Cervical Node Involvement, Cancer 8: 1164, Nov. 1955.

The follow-up figures of the Memorial series treated by routine radical neck dissection are 65% survival at the end of 5 years. This relatively low 5-year salvage may be due in part to the inclusion of those referred cases of thyroid malignancy with demonstrated metastatic potential. The better earlier results in Dr. Crile's series than those treated by more extensive dissections may be explained in part by the endocrine influence on these tumors by thyroid extract, which I will discuss later. A second difference in these early results may be in the classification of these neoplasms; for example, a predominantly papillary lesion with some areas of solid adenocarcinoma would be classed as an undifferentiated carcinoma by Crile and as a papillary lesion by Foote.

The next question that follows in the definitive treatment of papillary carcinoma of the thyroid is: Is total lobectomy adequate local excision? In the past few years we are hearing more and more of the frequency of multicentric foci of cancer involving the opposite lobe or the transthyroid spread to the opposite lobe. The frequency of contralateral lobe involvement has been found to depend on the enthusiasm of the pathologist. Where they are making subserial paraffin sections, Dr. Frantz at P. & S. in New York reports involvement in over 50%.<sup>3</sup> Dr. Groesbeck of San Diego found carcinoma (usually papillary) in the opposite lobe in 37% of his cases; Dr. McDonald of Los Angeles, 74%; and Dr. Russell of Houston, 87%.<sup>14</sup> I have communicated with Dr. Russell to see if he grouped the lesions into papillary, follicular and undifferentiated, and he reported that this was hardly practical in that their multiple sections showed that many tumors contained papillary, follicular and solid elements both in the primary and in the metastases. For these reasons some individuals feel that, when carcinoma is found in one lobe, a total thyroidectomy should be performed.

There is one serious objection to the routine performance of total thyroidectomy for thyroid cancer, and that is the hazard of developing permanent postoperative tetany. The only statistically significant series with which I am familiar is Dr. Clark's at the M. D. Anderson Hospital in Houston, in which he reports that 15 out of 120 cases (12.5%) of total thyroidectomy developed permanent tetany.<sup>14</sup>

Tetany, as you know, is a serious complication, is expensive, and not always too satisfactory to treat. This complication forces one to consider leaving the posterior capsule of the contralateral

14. Clark, R. Lee, Jr., and White, E. C.: Total Thyroidectomy for Cancer of the Thyroid: Significance of Intraglandular Dissemination, annual meeting, Southern Surgical Association, Dec. 11, 1958.



lobe in selected cases to minimize the risk of tetany. It goes without saying that one should be most familiar with the technique of identifying and preserving the parathyroid bodies and the recurrent laryngeal nerve before undertaking total thyroidectomy. (It is of interest that Dr. Clark reports 89% 5-year survival in his series.)

The discussion developed on the treatment of the papillary lesion dictates, for the most part, a similar treatment of follicular carcinoma; that is, total thyroidectomy (or one may elect to preserve the posterior capsule on the contralateral side and unilateral neck dissection on the presenting side). If it is determined that the contralateral nodes are involved by gross examination or biopsy, a contralateral neck dissection may be performed 6 weeks later. Dr. Cattell has had the unique experience of achieving better 5-year results with his follicular lesions (80%) than with his papillary (67%).<sup>3</sup>

The undifferentiated carcinomas commonly present as inoperable neoplasms and often little can be accomplished other than tracheal decompression. Because radiation therapy offers little and these anaplastic lesions are unresponsive to hormonal influence, a more aggressive surgical attack is in order when this is feasible. Both the early and late results of treatment of this lesion are poor; a few of these tumors can be cured with early surgical attack and rarely the lesion may remain stationary locally without spread or growth for many years.

ENDOCRINE DEPENDENCE OF THYROID CARCINOMA

In 1937 Sir Thomas Dunhill of London first reported the response of papillary carcinoma in children to large doses of thyroid extract. His first patient was a 13-year-old child who had been operated on for a papillary carcinoma at the age of 8. In 1934 the patient was seen with a recurrence in the neck and was started on thyroid. The mass disappeared and did not return. Twenty-two years later the patient remained well. Dunhill's second patient was a 24-year-old woman who, at the age of 5, had been operated on for cancer of the thyroid; she developed a massive recurrence at age 22 and was treated with radium without response. At age 24 she was started on large doses of thyroid and the recurrence disappeared. She is alive and well. In 1939 Dunhill treated another child with papillary carcinoma of the thyroid with biopsy-proven cervical node metastasis and deposits throughout both lung fields. During the ensuing years she took thyroid and all deposits disappeared from the lung fields; the patient is married and has several children.

Dunhill's observations were overlooked until 1954. Since that time numerous reporters have cited their short term experience with the effect

of thyroid extract on metastatic thyroid cancer.<sup>15</sup> The most impressive responses to thyroid feeding have occurred in patients with papillary carcinomas or their follicular variants. In a majority of the reported cases of differentiated tumors with metastasis, the lesions recede and clear, or remain stationary if adequate doses of thyroid (3-6 gr.), or tri-iodothyronine (200-300 mcg.) are given.

ENDOCRINE DEPENDENCY OF CERTAIN THYROID CANCERS				
		Regression		Inhibition
		Complete	Incomplete	
Dunhill	1937-56	3		
Balme	1954		1	
Ward	1955	1		
Crile	1955-57	8	3	4
Bierwaltes	1956	1		
Rawson	1956		1	
Maloof	1956			2
Graver	1956			1
Moore	1957		1	
Thomas	1957		3	
		13	9	8
				7

Figure 9

These early reports may not represent a true picture of the expected results as some observers who have not seen favorable responses have not reported their experiences. Trunnell detected no regression in any of 25 patients when the dosage of thyroid was small and designed only to maintain the euthyroid state. There have been no reported responses of the undifferentiated tumor to thyroid therapy.

It is felt that the mechanism of action of large doses of thyroid on thyroid malignancies is by suppression of the thyrotrophic hormone of the pituitary. It has also been noted conversely that hypothyroidism in the presence of thyroid carcinoma has activated the growth and spread of the lesions. In addition to the experimental data, there have been several clinical cases reported in which well differentiated carcinomas, which had remained stationary for many years, after treatment with radioactive iodine, metastasized widely, caused death, and at autopsy undifferentiated cancer was found. Maloof, in discussing the effects of total thyroidectomy on 15 patients with metastatic cancer of the thyroid, stated that, along with increased uptake of Iodine<sup>131</sup>, a concomitant growth stimulus was imparted to the metastases in 12 cases. Crile has reported a case of Hurthle-cell carcinoma with severe hyperthyroidism with pulmonary metastases static for several years. As soon as Iodine<sup>131</sup> controlled the hyperthyroidism, the metastases grew and killed the patient in a few months. In other words, hypothyroidism is to be avoided when dealing with metastatic thyroid cancer.

15. Crile, G., Jr.: The Endocrine Dependency of Certain Thyroid Cancers and the Danger That Hypothyroidism May Stimulate Their Growth, Cancer 10: 1119, Nov.-Dec. 1957.



For these reasons it is probably wise to treat pulmonary or osseous metastasis of differentiated thyroid carcinoma with large doses of desiccated thyroid and to consider Iodine<sup>131</sup> only if there is no suppression of the metastatic lesions by thyroid extract.

#### CONCLUSIONS

1. The incidence of diagnosed thyroid carcinoma is increasing.
2. Careful study of surgical specimens has shown a high incidence of spread to regional lymph nodes and an appreciable incidence of transthyroid spread to the opposite lobe.
3. To achieve better end results in the therapy of thyroid carcinoma, more adequate initial surgery, which has been defined, must be performed.
4. The alternative to adequate surgery is the complete removal of the primary thyroid malignancy and the control of the metastases by TSH

suppression.

5. Twenty to 25 years must elapse before a means of treating differentiated thyroid malignancy can be evaluated.

6. It is possible that time may ultimately prove that the major factor in curability of thyroid carcinoma is the biologic potential of an individual tumor, that early surgical intervention and the extent of resection of metastatic disease play secondary roles. Until this question is settled I would prefer to depend upon excisional therapy for thyroid cancer aimed at the total extirpation of the disease than to rest on local excision which seems to place a dependence on the long natural history of differentiated thyroid carcinoma, such unknowns as host resistance, and the possible suppression of metastatic disease with exogenous thyroid extract.

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### AN APPRAISAL OF THE MANAGEMENT OF HIRSCHSPRUNG'S DISEASE

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It has now been more than a decade since the pathologic anatomy and physiology of congenital megacolon were clearly elaborated and an effective operation devised for the relief of the condition. It seems appropriate, therefore, at this time to examine the results of this operative procedure in order to appraise its usefulness in the treatment of the disease.

It was in 1888 that Hirschsprung<sup>1</sup> of Copenhagen published a paper entitled "Constipation of the Newborn Because of Dilatation and Hypertrophy of the Colon." By this paper he naturally focussed the attention of later observers upon the dilated segment of colon as the primary seat of the disease. It was more than half a century later that it was clearly demonstrated, through the contributions of Ehrenpreis,<sup>2</sup> Swenson,<sup>3</sup> Hiatt<sup>4</sup> and others

that not the dilated but the narrow distal segment is the seat of the disease. This segment, incapable of normal peristaltic activity, is the site of physiologic obstruction. Whitehouse and Kernohan,<sup>5</sup> by careful pathologic studies, demonstrated that the morbid anatomy was an absence of the ganglion cells of Auerbach's plexus in this narrow distal segment.

Based upon these observations, Swenson and his associates,<sup>3</sup> working on dogs in the experimental laboratory, devised the ingenious operative procedure which allows removal of the narrow, diseased segment of the lower colon or rectum, and yet preserves the continuity of the lower enteric canal. The procedure is, in brief, an abdominoperineal resection of the lower segment of the colon and rectum, the proximal segment of colon being anastomosed to the stump of the anus after being telescoped through the dilated anal sphincter.

During the early years following Swenson's description of the procedure, and Hiatt's modification thereof, many surgeons adopted this method of management. Others were reluctant to employ it for varying reasons. Some thought the procedure too hazardous, others feared loss of sphincteric control or development of a stricture.

Read before the Association in annual session, Birmingham, April 10, 1959.

1. Hirschsprung, H.: Stuhltragheit Neugeborener in Folge von Dilatation und Hypertrophie des Colons, *Jahrb. f. Kinderh.*, 27: 1, 1888.

2. Ehrenpreis, T.: Megacolon in the Newborn, *Acta Chir. Scandinav.* (Supp. 112) 94: 1, 1946.

3. Swenson, O., and A. H. Bill, Jr.: Resection of Rectum and Rectosigmoid with Preservation of Sphincter for Benign Spastic Lesions Producing Megacolon; Experimental Study, *Surgery* 24: 212, 1948.

4. Hiatt, R. B.: The Pathologic Physiology of Congenital Megacolon, *Ann. Surg.* 133: 313, 1951.

5. Whitehouse, F. R., and J. W. Kernohan: The Myenteric Plexus in Congenital Megacolon, *Arch. Int. Med.* 82: 75, 1948.



Still others anticipated loss of sexual potency because of interruption of the pelvic autonomic nerves entailed by extensive pelvic dissection. In an attempt to avoid these potential objections, some surgeons continued to perform some type of limited transabdominal method of resection. With the passage of time, however, progressively wider acceptance of Swenson's procedure has been noted. There remain, however, a few surgeons and pediatricians who yet have reservations regarding the procedure. By now a sufficient number of cases have been reported to allow a fair evaluation of results.

Wyllie<sup>6</sup> of Great Britain has reported 152 patients followed up to 10 years, with a mortality of 4%. He reports 7 strictures but does not state whether there were other patients who required dilatation for a time. Of 102 patients operated on more than 3 years ago he reports that 61 patients are fully continent; 28 others have good control, meaning that they may stain occasionally when the stool is loose; while 13 patients have only fair or poor control.

Swenson<sup>7</sup> has reported his series of 200 cases operated on since 1948, and followed for 10 years or less. He reports an overall mortality of 3%. Seventy-three patients have been followed 5 to 10 years and of these there has been one unsatisfactory result. Of 64 patients followed 2 to 5 years there has been one unsatisfactory result, and among 52 patients operated on less than 2 years ago, 3 have results which to date are not satisfactory—one has persistent constipation and two have persistent diarrhea. In the series are 8 men who are now fathers, and 6 men over 20 who, though not married, are known to have no defect of ejaculation.

Such results, excellent as they are, are not achieved lightly, and a few remarks directed to this end seem in order.

First of all a most important factor in achieving good results is the proper selection of patients for the operation.<sup>8</sup> Just as it is true that all chronically constipated children do not have megacolon, so it is also true that all cases of megacolon are not true Hirschsprung's disease—or agenesis of the myenteric plexus. True Hirschsprung's disease embraces certain typical features: (1) a history of constipation dating back to the neonatal

period; (2) a rectum which on digital examination is collapsed and empty of feces—rather than bulbous and distended with feces; and (3) an area of narrowing in the colon or rectum demonstrable on barium enema carried out according to a prescribed technique. It must be added, however, that occasionally one of these features may be altered. When doubt as to the diagnosis exists, a rectal biopsy performed under general anesthesia is a simple procedure that will provide a positive diagnosis. The absence of ganglion cells in the myenteric plexus establishes the diagnosis of Hirschsprung's disease.

Once the diagnosis is established, proper management of the patient prior to the definitive operation is another important factor influencing the end result. We now know that the extensive operation should not be carried out in the very young infant, but that he should be controlled by conservative means until he reaches a weight of 25 or 30 pounds, which usually occurs about the age of 1 year. Often the infant can be managed with daily enemas—which should always be of normal or half normal saline. It should be pointed out parenthetically that these infants may develop either sodium intoxication or water intoxication as a result of enemas. If, on the other hand, enemas do not control the condition, a colostomy is necessary.

A word about the actual operative procedure is in order. This is a tedious, time-consuming procedure, which, especially in performance of the anastomosis between the dilated colon and the narrow anal cuff, demands meticulous care. Swenson recently commented that he required 5 or 6 hours to complete the entire procedure. I think his results, as reported above, have been good because of the patience and care which he exercises.

In a small group of cases managed by the Swenson procedure, we have had uniformly good ultimate results. It is most gratifying to see these children, who have never had a bowel movement in their lives without an enema, spontaneously produce a stool on the second or third postoperative day. A few of these cases have been selected to demonstrate certain features worthy of emphasis.

*Case 1:* R. R., diagnosed at 4 months, followed carefully with daily enemas until 1 year of age. Operative procedure was uneventful. Bowel movement occurred on the 2nd postoperative day. His only problem in the 6 months since operation has been occasional diarrhea.

*Case 2:* H. F.: This 5-year-old boy had a typical history of constipation dating back to early infancy. On physical examination, however, he presented a rectum distended with feces, a condition which, as a rule, is not found in Hirschsprung's

6. Wyllie, G. G.: The Course and Management of Hirschsprung's Disease, *Lancet* 1: 847, 1957.

7. Swenson, O.: Follow-up on 200 Patients Treated for Hirschsprung's Disease During a 10-Year Period, *Ann. Surg.* 146: 706, 1957.

8. Bill, A. H., Jr., S. A. Creighton and J. K. Stevenson: The Selection of Infants and Children for the Surgical Treatment of Hirschsprung's Disease, *Surg., Gynec. & Obst.* 104: 151, 1957.



disease. However, because of many other features suggestive of the disease, he was subjected to rectal biopsy. The biopsy demonstrated absence of ganglion cells and thus the diagnosis was established. He has done well since operation.

*Case 3:* R. L. demonstrates several points. First, one barium enema failed to show the distinctive area of narrowing and serves to point up the fact that the lesion may go unrecognized unless special technique is employed. Second, another barium enema made much earlier had demonstrated the typical area of narrowing but a local procedure had been carried out on the constricted area with prompt recurrence of symptoms. Third, following the Swenson procedure a stormy postoperative course developed because of failure at that time to recognize the frequent coexistence of megaureter and megacolon—both due to absence of ganglion cells in the wall of the involved viscus. We now carry out routine intravenous urograms on every patient with congenital megacolon.

*Case 4:* D. O.: This is an example of two important points. First, the condition is an important, though frequently overlooked, cause of acute intestinal obstruction in the newborn. This fact, until quite recently, has not been widely appreciated. However, during the years 1957 and 1958



Figure 1

several articles have appeared on this subject. A second point demonstrated by this case is the location of the point of narrowing in the upper colon. The area of ganglion agenesis is not necessarily confined to the lower sigmoid or rectum. This particular defect is located at the splenic flexure. Though the figure varies in different series, it is estimated that in 15% of cases the neurogenic defect extends higher than the sigmoid. The defect has been reported extending from the duodeno-jejunal junction to the anus. Two cases having involvement of the entire colon and terminal ileum have been salvaged by Ehrenpreis and by Dorman by primary ileostomy, followed at the age of a year and a half, by ileoanostomy.



Figure 2

*Case 5:* W. S.: This boy, the oldest in my group, was 13 at the time of diagnosis and operation. When first encountered at the age of 13 years, he was of the size of a malnourished child of 6 years. You will note the habitus (figure 1)—and in the second illustration (figure 2) the striking change in profile 6 months after operation. Due to the enormous size of the sigmoid, which literally was as wide as the entire peritoneal cavity, a preliminary colostomy was necessary, of course. It is of further interest to observe that this boy, now 19, is well developed, fully continent and sexually competent!



## POLYMORPHOUS LIGHT ERUPTION AND SOLAR KERATOSIS TREATMENT WITH 8-METHOXYPsorALEN

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The drug 8-methoxypsoralen\* has been found useful in the prevention of sunburn<sup>1-3</sup> and for treatment of vitiligo.<sup>4-8</sup> It seemed logical that this compound would be useful for such conditions as polymorphous light eruption (sunlight sensitivity) and early solar keratoses.

Polymorphous light eruption or solar sensitivity is, as the name indicates, a condition in which a person becomes sensitive to certain light wavelengths of the solar spectrum. This condition is seen more frequently in the warmer climates due to the strong sunlight. Other drugs that are used for treatment of polymorphous light eruption are chloroquine, hydroxychloroquine sulfate, and local sunscreens as sunburn preventive creams that often contain para-aminobenzoic acid.

During the past two years I have used 8-methoxypsoralen for nine cases of polymorphous light eruption and six cases of solar keratoses. The patient should be examined carefully to rule out such conditions as porphyria or pellagra and a careful history taken to rule out light sensitive dermatoses due to the ingestion of such drugs as barbiturates, sulfonamides, chlorpromazine, quinine and quinidine.

The following case illustrates one of the patients treated for polymorphous light eruption. Mr. T. P. R., a 52-year-old white male carpenter, developed a skin eruption 8 years ago which would almost disappear during our mild winter months

\*Oxsoralen capsules, Paul B. Elder Company, containing 10 mg. 8-methoxypsoralen, were used in this study.

1. Fitzpatrick, T. B.; Hopkins, C. E.; Blickenstaff, D. D., and Swift, S.: Augmented Pigmentation and Other Responses of Normal Human Skin to Solar Radiation Following Oral Administration of 8-Methoxypsoralen, *J. Invest. Dermat.* 25: 187, Sept. 1955.

2. Lerner, A. B.; Denton, C. R., and Fitzpatrick, T. B.: Clinical and Experimental Studies with 8-Methoxypsoralen in Vitiligo, *J. Invest. Dermat.* 20: 299, April 1953.

3. Lerner, A. B.: Potentiation of Sun Tanning Through Ingestion of 8-Methoxypsoralen, *J. Invest. Dermat.* 25: 1, July 1955.

4. Couperus, M.: Ammoidin (Xanthotoxin) in the Treatment of Vitiligo, *California Med.* 81: 402, Dec. 1954.

5. George, W. M., and Burks, J. W., Jr.: Treatment of Vitiligo with Psoralen Derivatives, *A. M. A. Arch. Dermat.* 71: 14, Jan. 1955.

6. Kanof, N. B.: Newer Knowledge of Melanin Pigmentation and the Treatment of Melanin Disturbances in the Skin, *New York J. Med.* 55: 3103, Nov. 1955.

7. Elliott, J. A., Jr.: The Treatment of Vitiligo with 8-Methoxypsoralen, *South. M. J.* 49: 691, July 1956.

8. Sheldon, S. A.; Harrell, E. R., and Curtis, A. C.: Results in the Treatment of Vitiligo with 8-Methoxypsoralen, *A. M. A. Arch. Dermat.* 74: 9, July 1956.

of December, January and February and recur during the spring. The eruption would often incapacitate the patient and he had been hospitalized on two occasions. The urine examination was negative for sugar and porphyrins. Physical examination was negative except for the skin eruption which showed small urticarial lesions, papules, redness, scaling and evidence of scratching which was almost limited to the sun exposed areas of the hands, arms, neck, legs just above the ankles, upper chest and back (since the patient often worked in his undershirt). He was instructed to take one 8-methoxypsoralen capsule before breakfast and lunch, and to apply a cream containing para-aminobenzoic acid at these times. The patient became clear in one month. He was seen on a few more occasions with mild recurrences. However, he was able to continue his work with few symptoms.

Six cases of solar keratoses with the so-called "farmer's and sailor's" type of skin have been treated. One case was Mr. K. S., a 49-year-old white male who worked for the Department of Agriculture. The patient had a ruddy complexion with a large solar keratosis on the right forearm and left temple with many smaller scaling keratotic lesions on the face. The two larger lesions were anesthetized, curetted and electrodesiccated. He was instructed to take one 8-methoxypsoralen capsule before breakfast and lunch. Sixteen days later the electrodesiccated areas were healed, the early keratotic areas had disappeared, and the skin was much smoother.

The patients in both groups were instructed to take one 8-methoxypsoralen capsule before breakfast and lunch (which would give them sunlight protection throughout the day) and eight patients were also instructed to use a cream containing para-aminobenzoic acid locally. The results of the treatment of the polymorphous light eruption cases were as follows: two cleared, five showed marked improvement, one moderate improvement, and one mild improvement. Results of treatment of the solar keratoses cases were as follows: one cleared, one marked improvement, two moderate improvement, and one mild improvement.

One patient who gave a history of being allergic to penicillin and sulfa drugs developed nausea while on the medication, and when changed to chloroquine a few days later she again developed nausea.

## SUMMARY

8-methoxypsoralen was used in the treatment of nine cases of polymorphous light eruption and six cases of solar keratoses. Results of treatment were favorable.





### HE WON'T HIRE HEALTHY WORKERS

Henry Viscardi, Jr., operates a world famous factory at Albertson, L. I., and he attributes his success to a frankly discriminatory employment policy. He won't hire a healthy worker.

Viscardi is president and founder of Abilities, Inc., the factory run by and for disabled people. Its purpose: to prove that the disabled can reap both medical and economic benefits from doing active, useful work.

The company began in an unfurnished garage with four employees who had only five usable arms among them, only one usable leg. None of them had had any experience in the electronic work they were trying to do; they just waded in on the theory that "you've got to start somewhere." Today, 7 years later, the company hires more than 400 people, does more than 2 million dollars' worth of business a year, and operates out of a handsome new plant of its own.

The employees include paraplegics, epileptics, cardiacs, amputees, the blind, deaf mutes, victims of cerebral palsy, rheumatoid arthritis, multiple sclerosis, polio and cancer. The case histories of successful rehabilitation include people like these:

An armless, legless man is a foreman in the plant's busy packaging department.

Another supervisor works flat on his back, from a litter. His back and legs have been fused as a result of spinal injuries.

One employee suffers from dystonia, a rare disorder which destroys the sense of equilibrium. Through immense concentration he is able to work while, with flailing arms and legs, he fights a constant battle to remain erect.

A woman worker has hands so afflicted by rheumatoid arthritis that she is not able to flick a light switch, yet she became proficient at delicate, exacting tasks of electronic assembly. Another woman, blind and deaf, had to overcome severe emotional disturbance as well.

Every man and woman in the plant is seriously disabled, down to the floorsweeper and up to the boss. Viscardi himself was born legless, achieved personal success through long struggle,

## Editorials

then quit his secure, well-paying job to devote his talents and energies to a bold new idea in rehabilitation.

Viscardi tells the full story of Abilities in his book *Give Us The Tools*. It is published by Erikson-Taplinger Company.

*Give Us The Tools* is an adventure story—the adventure of men fighting and winning the hardest of all battles against seemingly impossible odds.

It is also a story of medical discovery. Abilities has become a living laboratory, is producing exciting new evidence of what work therapy might do for thousands of people who are now confined to wheelchairs or hospital wards. One study conducted at Abilities, and published recently in the *Journal of the American Medical Association*, showed that the physical and emotional benefits of suitable employment far outweighs the risks for many of those who suffer from serious heart conditions. Now in progress are similar studies covering other major causes of disability.

The Abilities program has won warm endorsement from such an authority as Dr. Howard Rusk of the famous N.Y.U.-Bellevue Hospital rehabilitation center. The AMA has conferred on Viscardi a rare citation for distinguished service. He is the second layman ever to receive that medical award.

### WARM SPRINGS FOUNDATION EXPANDS

The Georgia Warm Springs Foundation has completed its expansion into broad new health areas in which skills gained in 30 years of rehabilitating polio patients are being applied to a wide range of other physical handicaps, Basil O'Connor, president of Warm Springs Foundation since its inception in 1927, announced recently.

Arthritis patients are now receiving treatment at Warm Springs, along with patients disabled by birth defects, amputations of arms or legs, traumatic paralysis, and other disabling neuromuscular disorders, Mr. O'Connor said.

New patients include youths and adults disabled by motorcycle and auto accidents, farmers injured in tractor accidents, industrial workers hurt in



factory mishaps, older men and women suffering paralysis from strokes, and many others, he said.

"With the advent of the Salk vaccine four years ago, we began planning for the day when polio would no longer require our full attention and we would be able to help many patients disabled from other causes," Mr. O'Connor reported.

"As the need for care of the physical handicaps caused by polio is met, Warm Springs Foundation is morally bound to utilize its facilities to care for the infinite number of other problems that could reasonably be expected to be solved through the training and experiences in the care of polio," he said.

While each disease or injury has its own peculiar problems, the basic principles of care at Warm Springs Foundation are applicable to most, if not all, physical handicaps, he added.

"Warm Springs has accepted these responsibilities, not for the selfish reason of continued existence, but rather to assume its rightful place in the field of medical care and education. We have sought to create for all physical disability the same philosophy of total care that we have attempted to develop for poliomyelitis," he said.

More than one-fifth of all patients treated in 1958 at Warm Springs were affected by conditions other than polio and the percentage figure is growing steadily in 1959.

"However, polio is by no means finished. There still are thousands disabled by polio who will need further care. There are millions who have not yet received the Salk vaccine and thus are still susceptible to new polio attack. We know at the Warm Springs Foundation that polio will continue to be a big part of our work for years. Warm Springs was founded originally by Franklin D. Roosevelt as a polio rehabilitation center, and as long as there are polio patients who seek treatment here Warm Springs will continue to receive them," he said.

Mr. O'Connor also is president of The National Foundation, originally the National Foundation for Infantile Paralysis, which developed in 1938 as an outgrowth of the Warm Springs Foundation. The two organizations are entirely separate entities but have worked closely together since their beginnings.

The National Foundation has recently expanded its program to include arthritis, birth defects, virus diseases and disorders of the central nervous system as well as polio.

#### HOSPITAL ADMISSIONS IN 1958

Hospitals in the United States cared for 700,000

more cases last year than in 1957, according to the American Hospital Association.

A total of 23,697,000 hospital admissions was reported in 1958 as compared to 22,993,000 in 1957, according to statistics which appeared in the annual Guide Issue of *Hospitals*, Journal of the Association. The information was compiled from questionnaires received from 6,786 hospitals in the continental United States.

Births reported by the hospitals reached an all-time high of 3,742,000 babies born in 1958. Each day last year there were more than 1,300,000 patients and 48,000 newborn babies in hospitals.

The hospitals reported total expenses of \$7,133,493,000, of which \$4,660,191,000 was for payroll. Total assets for all hospitals amounted to \$15,470,017,000. The hospitals employed 1,464,829 people in 1958, an average of 111 per 100 patients, as compared with 107 in 1957. This ratio ranged from 224 employees per 100 patients in voluntary short-term hospitals to 34 per 100 patients in nonfederal psychiatric hospitals.

The voluntary short-term hospitals cared for 15,825,136 cases; the average patient stay in these hospitals was 7.4 days. An average of \$29.24 a day was spent by these hospitals for the care of each patient, an increase of \$2.43 over 1957.

Patients in voluntary short-term hospitals paid an average of \$1.28 a day less than it cost to care for them. Total income from patients in these voluntary hospitals in 1958 was \$3,277,242,000, while expenses were \$3,426,520,000. Patient income made up 92.6 per cent of the total income of all these hospitals in 1958, as compared with 91.2 per cent in 1957. The balance came from contributions, grants and income from such sources as endowments.

The average expenditure per day in 1958 for each patient in the nation's federal psychiatric hospitals was \$10.61. In the voluntary psychiatric hospitals the average expense per patient day was \$16.35; in the proprietary psychiatric hospitals, \$17.66; and in the state and local governmental psychiatric hospitals, \$4.11. The expenses in all these hospitals are higher than in 1957.

Other facts released by the Association were:

More than 277,000 professional nurses worked full-time in hospitals in 1958. This included over 236,000 nurses as hospital employees and more than 41,000 private duty nurses. In addition, almost 65,000 professional nurses served in hospitals on a part-time basis.

More than half of all U. S. hospitals were voluntary nonprofit hospitals operated by churches and nonprofit associations. Fifteen per cent were proprietary and 33 per cent were operated by



agencies of federal, state, or local government. The federal hospitals represented a little more than six per cent of all hospitals.

Short-term hospitals cared for 96 per cent of the total admissions while long-term hospitals received four per cent. However, 63 per cent of the patients in hospitals each day were in the long-term hospitals.

Of all hospitals with 25 beds or more, 58 per cent were accredited by the Joint Commission on Accreditation of Hospitals. In the non-federal short-term hospitals of the size, 61 per cent were accredited; while in the voluntary hospitals of the short-term group 73 per cent were accredited, with 100 per cent accreditation in the hospitals with 300 beds or more.

Hospitals reporting included 1,287 in large metropolitan areas of one million or more population; 1,555 in small metropolitan areas having between 50,000 and one million persons; and 3,944 in non-metropolitan areas of less than 50,000 persons. Over 78 per cent of all listed hospitals are members of the American Hospital Association.

#### AMERICAN FRACTURE ASSOCIATION

The American Fracture Association will hold its 20th annual meeting at the Roosevelt Hotel, New Orleans, November 1-4, 1959. Dr. Elias Kaiser of Montgomery is general chairman of the meeting, and other participants from Alabama will be Drs. Howard J. Goldstein, Montgomery, and Benjamin Meyer, Birmingham.

For ladies attending the convention there will be a bus tour, with luncheon at the famous Beach House on November 2nd.

Ample time will be available for individually planned tours, shopping and gourmet experiences. The November climate in New Orleans is pleasantly temperate.

Reservations should be made directly with the hotel.

#### AM. BD. OF OBSTETRICS AND GYNECOLOGY

The next scheduled examination (Part 1), written, and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the Continental United States, on Friday, January 15, 1960. Candidates must submit case reports to the office of the Secretary within thirty days of being notified of their eligibility to Part 1.

Current Bulletins may be obtained by writing to Robert L. Faulkner, M. D., Executive Secretary, 2105 Adelbert Road, Cleveland 6, Ohio.

**Speech Training Begins on First Day of Life**—A baby's desire to speak can be awakened as early as the fifth week of life, according to a New York speech expert.

Writing in the September Today's Health, published by the American Medical Association, Flora Rheta Schreiber said parents can and should get their child ready for good speech long before he speaks his first words.

They should begin on the first day of the baby's life, when the mother's arms, the softness of her voice, the aura she creates set the stage for the child's future mental health and his successful speech and language development.

To learn to speak, a child must have an appreciative audience. If the mother responds to the sounds the baby makes, his desire to speak will be awakened in the first few weeks of life.

During the first months, the mother must give her child assurance through the tone of her voice. When she feeds him, she might say "dogs say bow-wow . . ." Or she can just coo. The words mean nothing, but the sound of the mother's voice means a great deal, Miss Schreiber said.

As the child begins to babble, parents should recognize this as a rehearsal for true speech and they should babble with him, the author said.

"Babble anything during these first seven months; it's not the sense that counts, but only the sound of love," she said.

Between six and nine months, when the baby begins to reach for a cup or a toy, the parent should babble its chief sound and follow it with the name. If the baby reaches for a ball, first say "awl," then "ball," Miss Schreiber said.

By the ninth month, the baby may be starting to mimic the words he hears. Then the parent should begin to talk real words to him—words that are short and contain sounds he can easily form.

Between nine and 12 months, when the baby begins to stand and poke around, name each object as he touches it and encourage him to make sounds, she said. Awaken his sense of rhythm by getting him to move to the tick-tock of a clock or to music.

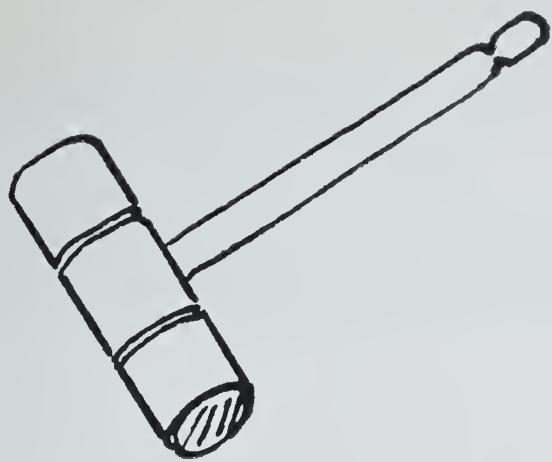
As the child enters his second year, he should be given many opportunities to see the connection between things and experiences and the words for them.

"Give him new words in a relaxed manner. Make speaking the most natural thing in the world. At 12-15 months there is a speed-up of words; at 15-18 months a slow-up replaced by a grasping of meanings, and after 18 months there's another speed-up," she said.

When a child searches for a new word, accept the search as even more important than the word itself. In this way, his assurance is built. A child gets excited about new words if he has been stimulated to do so and if he has been provided with a motive for speaking, she said.

If the early months have been used to stimulate a child to talk, he will start speaking his first sentence between 12 and 27 months. By three years he will be going great guns, chattering all the time, Miss Schreiber said.





# President's Page

## EIGHTY YEARS AGO

THE State Board of Censors rendered its sixth annual report to the Association in session in Selma, April 8, 9, 10 and 11, 1879. In it were contained historic references of great significance worthy of recording again for today's readers of the Journal. Said the Board:

"In the beginning of our Sixth Annual Report, it affords us pleasure to be able to congratulate the Association on its continued and increasing prosperity. We entered upon a new career, very different from any known before in our history as an Association, with the adoption of what is known amongst us as the New Constitution, a constitution which has committed us to a plan of organization and action not only previously unheard of in Alabama but unlike anything else that we know of in the way of medical organization any where in the world. The more this plan has been put to the test by the onward march of events, the more it has given proof of its adaptation to changing circumstances, and of the far-reaching wisdom of its fundamental conceptions. In 1875, by the 'Act Establishing Boards of Health in the State of Alabama,' we were called upon by the State to undertake the administration of a complex system of sanitary organizations, to consist, when completed, of a local board of health in every county and in every city, all under the general management of this Association acting as a State Board of Health.

"Again, in 1877, the State gave evidence of her confidence in our stability and trustworthiness by the passage in the General Assembly of the famous 'Act to Regulate the Practice of Medicine in the State of Alabama,' the first law ever enacted by any State of the American Union which empowers the medical profession itself to prescribe the terms of admission into its own ranks, and the character of the qualifications necessary to obtain the right to practice medicine in the State. In the session of the General Assembly which adjourned only a few weeks ago, the State has again shown her high appreciation of this Association by appropriating, in the 'Act to Carry into Effect the Health Laws of the State,' the sum of three thousand dollars a year, for the uses of this Association

in its capacity of State Board of Health; and in a spirit of generous confidence in us, which we believe will prove to be as wise as it is generous, has left the details of its expenditure to our discretion.

"We have made this rapid enumeration of our legal privileges and powers with the view of impressing upon our Counsellors and Delegates and widely scattered membership the character and magnitude of the responsibilities which attach themselves to our organization, and which we cannot afford to forget, or to neglect, or to value lightly. Let us prove ourselves equal to our fortune. Let us prove ourselves worthy of our mission. There is but one way to do this; but that way is sure and easily understood. It is to do our duty bravely, justly, laboriously, and unshrinkingly. If we do this, we can look the busy present in the face without shame; and need not fear the verdict of the great future." Alabama's medical organization is unique and because of its uniqueness, brought about by the soundness of its conception, has merited widespread praise.

In his Message to the Association in 1879, Dr. Robert Dickens Webb of Livingston said: "In a republican form of government like ours, where the people are supreme, no great reform can be carried out without educating the public mind to a proper appreciation of the object to be attained.

"Here our Association has a lever of great power, to be used as a means for procuring proper legislation," to conform to the axiom of Dr. Jerome Cochran who said: "We ought to make it an inflexible rule never to seek to influence the enactment of laws that are for our exclusive benefit. Let us ask nothing of the General Assembly which is not quite as much for the advantage of the general public as for the profession of medicine."

On that rock Alabama's profession has stood throughout the years—a rock in which there has been no variableness nor shadow that is cast by turning.

*W. R. Carter*





# ORGANIZATION SECTION

## JOINT COUNCIL FOR AGING FORMED

Representatives of the medical, dental and nursing professions met at the State Medical Association Building in Montgomery recently and formed a Joint Council to Improve the Health Care of the Aged.

Meeting with Dr. J. J. Kirschenfeld, Chairman of the Association's Committee on Aging, were Miss Catherine Corley, Nurses' Association and Drs. Max Brantley, Leon P. Geary, and Thomas W. Jones of the Dental Association.

In his introductory remarks, Dr. Kirschenfeld said a national organization composed of the American Medical Association, American Dental Association, American Hospital Association, American Nurses' Association, and the American Nursing Home Association was formed on the initiative of the American Medical Association's Committee on Aging several years ago. The national organization, he pointed out, has urged each state to form a similar council.

Dr. Kirschenfeld explained to the group how such joint councils have been organized in other states for the purpose of seeking public acceptance of a proper perspective toward older citizens, to promote health maintenance and restorative services, to encourage the training of personnel and the development of facilities for the care of the aged, to cooperate in developing community programs for senior citizens, to expand medical and socio-economic research in reference to aging and the aged, and to improve methods of financing health care for the aged. The overall function of a joint council, he continued, would be to act as a clearing house for all of the efforts of the various medical and allied groups in their attack on this problem.

Dr. Kirschenfeld reported that Mr. Alvin T. Prestwood, Commissioner of Pensions and Security, had been appointed by Governor Patterson to establish a State Advisory Committee on Aging for planning Alabama's participation in the 1961 White House Conference on Aging, and that Mr. Prestwood is presently seeking members for his advisory group.

The problem of aging has become an important one, Dr. Kirschenfeld said, because the percentage

of our population 65 and over has increased from four per cent in 1900 to nine per cent in 1959, and will reach twenty per cent by 1970. Today, he continued, the life expectancy for the male after he reaches the age of sixty-five is thirteen years, for the female it is fifteen and one-half years, and that a married female can expect to be a widow for ten years. He also stated that three-fifths of the aged population have an income of less than a thousand dollars per year, and that one-third of them work.

Dr. Kirschenfeld then discussed the impact of the Forand Bill and the Senate Labor Committee hearings on aging.

Following this discussion, Dr. Kirschenfeld recommended that a committee similar to the State Medical Association's Committee on Aging be established within the respective associations and that one person from such committee represent that association at the Joint Council meetings. The group passed the recommendation and unanimously elected Dr. Kirschenfeld chairman of the council.

The newly formed council then adopted the following program: 1) Determine what each association is doing in the regards to the problem. 2) Coordinate the programs of each of these associations so there would be no overlapping. 3) Stimulate a more realistic and practical attitude towards the problem of aging in each component organization. 4) Stimulate a more realistic attitude on the part of the public with proper news releases and guest speakers. 5) Cooperate with management and labor in the development of a more realistic view towards retirement.

The Joint Council voted to hold meetings quarterly, and the next meeting of the new organization will be held on November 19 at 2:00 P. M. in the Medical Association's Building in Montgomery.

## THE MEDICAL PRACTICE ACT

The four bills dealing with the Medical Practice Act were signed by Governor John Patterson on August 26, and they will become effective on January 1, 1960. The new reading of the Medical Practice Act, as amended by the state legislature, is printed below to inform you of the new changes in the Medical Practice Act.



## ORGANIZATION SECTION

### ALABAMA'S MEDICAL PRACTICE ACT (Sections 258-289, 1940 Code, As Amended) (Title 46)

Sec. 258. *Board of medical examiners.*—The board of censors of the Medical Association of the State of Alabama, as constituted under the laws now in force, or which may hereafter be in force, is constituted a state board of medical examiners and is charged with the duties and clothed with the powers hereinafter prescribed.

Section 259. *Branches of learning examined upon.*—An applicant for a certificate of qualification to practice medicine or osteopathy in this state shall be examined in writing, by the state board of medical examiners, in the following branches of medical learning, to-wit: General medicine, surgery, obstetrics, gynecology, preventive medicine and jurisprudence; and such other branches as the board may require. All applicants coming before the board for examination must present a certificate issued by the board of examiners in the basic sciences and a diploma showing graduation from a medical college approved by the state board of medical examiners or a college of osteopathy approved by the state board of medical examiners. If said applicant shall obtain an average of seventy-five per cent in the branches set forth herein, and all other branches wherein the board requires an examination, there shall be issued to the state licensing board for the healing arts a certificate of qualification in behalf of said applicant, which shall entitle said applicant to apply to the said board for license to practice medicine or osteopathy in Alabama; and no person shall practice medicine or osteopathy unless and until such person shall have obtained a license and a certificate of registration from the state licensing board for the healing arts.

In the case of applicants who are to diagnose only local ailments of the human foot and to treat such ailments only locally, extending treatment no deeper than the true skin and using only local anesthetics in connection with such treatments, such applicants need possess only such qualifications and submit to such examinations only as, in the judgment of the state board of medical examiners, are necessary for the protection of the public health, safety, and morals and as are prescribed by said board in regulations duly promulgated. Said examinations shall embrace the anatomy and physiology of the foot; the diagnosis and treatment of diseases and ailments of the foot; asepsis; antisepsis; therapeutics and clinical chiropody. On proof of possessing such qualifications and on passing such an examination, either before the state board of medical examiners or before an examiner or examiners appointed by it, and selected from the membership of the Alabama association of chiropodists to the satisfaction of said board of medical examiners, there shall be issued to the state licensing board for the healing arts a certificate of qualification in behalf of said applicant which shall entitle said applicant to apply to said board for license to practice as a chiropodist qualified to diagnose and treat local ailments of the human foot, but only by local treatment extending no deeper than the true skin and using only local anesthetics in connection with such treatment. No person shall practice chiropody unless and until such person shall have obtained a license and a certificate of registration from the state licensing board for the healing arts.

Section 260. *Application for examination for certificate of qualification.*—An applicant shall, before being permitted to enter upon an examination, fill out an application blank, giving his name, age, residence, college and date of graduation, references, and such other

data as the state board of medical examiners may require. The applicant shall make affidavit that he is the person he represents himself to be, and that he will faithfully observe all rules governing the examination. Any member of the state board of medical examiners, or the supervisors of examinations appointed by said board, may administer the oath prescribed. The board shall have the right to refuse to examine a person whose reputation is such as to render him unworthy of membership in the medical profession.

Section 261. *Practicing medicine, osteopathy or chiropody without license; penalty for.*—Any person who practices medicine, osteopathy, or chiropody, or offers to do so in this state, without a certificate of qualification having been issued in his behalf by the state board of medical examiners and without a license and certificate of registration from the state licensing board for the healing arts, shall be guilty of a misdemeanor, and, upon conviction, shall be fined for each offense not less than fifty nor more than five hundred dollars, and may be imprisoned in the county jail for not less than one month nor more than three months. And where indictments are preferred by a grand jury, such cases shall only be tried in the court wherein the indictment is preferred and shall not be transferred to any other court.

Section 262. *Other examinations allowed on failure.*—When an applicant fails to attain the standard of proficiency prescribed herein his examination shall be deemed unsuccessful; however, such applicant shall be entitled to one other examination at any time after the expiration of six months from the date of the preceding examination. Subsequent examinations shall be contingent upon proof of further study approved by the board of medical examiners.

Section 263. *Board of medical examiners, reciprocal with those of other states.*—(a) The state board of medical examiners may establish reciprocal relations with similar boards of other states in reference to the issuance of certificates of qualification, provided that such reciprocal relations shall not be established with a board of examiners of any state that does not require examination upon substantially the same branches of medical learning as those enumerated in section 259 of this title, and does not maintain a standard of proficiency at least equal to that maintained by the board of medical examiners of this state. When such reciprocal relations have been established, a certificate of qualification may be issued without examination in behalf of a person who presents evidence that he has complied with the requirements of a reciprocating state board.

(b) The state board of medical examiners may issue a certificate of qualification without examination in behalf of a person who presents evidence that he has complied with the requirements of the appropriate state board of examiners of another state, provided that such board of that state requires examination upon substantially the same branches of medical learning as those enumerated in section 259 of this title and maintains a standard of proficiency at least equal to that maintained by the state board of medical examiners of this state, whether it has established reciprocal relations with the appropriate board of examiners of such state or not.

(c) On the face of any certificate of qualification issued in accordance with the provisions of this section a statement shall appear that it was issued pro forma and without examination.

(d) Any certificate of qualification heretofore issued by the state board of medical examiners under the



provisions of this section is hereby validated, ratified, and confirmed, provided such certificate could have been issued under said section as the same now reads.

(e) No person in whose behalf a reciprocal or pro forma certificate of qualification has been issued shall practice in this state unless and until he shall have obtained a license and certificate of registration from the state licensing board for the healing arts.

Section 264. *Physicians of adjoining states; regulations as to practice in this state.*—A physician who resides in an adjoining state, near the border of this state, shall be allowed the privilege of practicing in any county of this state into which his practice may extend without examination, if he holds a certificate of qualification from his own state board of medical examiners and causes said certificate to be placed on record in the office of the judge of probate of the county or counties in this state into which his practice extends, but he shall not open an office or establish a place in this state at which calls may be left for him. A similar privilege shall be accorded to a licensed physician of any state who may be called into this state in consultation with a physician, except that such consulting physician shall not be required to place his certificate of qualification on record.

Section 265. *Certain certificates issued without examination.*—The state board of medical examiners may issue in behalf of a commissioned officer of the Medical Corps of the Army, the Navy, the Air Force, or the Public Health Service of the United States a certificate of qualification without examination, provided that such commissioned officer presents to said board a commission or other satisfactory evidence showing that he is such medical officer; and may issue a certificate of qualification without examination in behalf of any one filing a certificate of proficiency issued by a national examining board accepted and approved by the board of medical examiners; but upon the face of the certificate so issued it shall appear that the certificate was issued pro forma and without examination.

Section 266. *Suspending or revoking certificate of qualification to practice medicine.*—The state board of medical examiners may suspend or revoke the certificate of qualification of a physician, osteopath or chiropractor for any of the following: Using spirituous, vinous, or malt liquors, or morphine, opium, cocaine, or other stimulants or narcotics to such an extent as to render him unsafe or unreliable as a practitioner. Being guilty of gross immorality that would tend to bring reproach upon his profession. Being guilty of unprofessional conduct of a character likely to deceive, defraud or injure the public in matters pertaining to health. Advertising himself or his practice, whether through newspapers or other periodicals, or by circulars, or otherwise, in such manner as tends to mislead or deceive the public in matters pertaining to health. Inducing or aiding in inducing or attempting or aiding in an attempt to induce a criminal abortion or a criminal miscarriage or a criminal premature delivery of a woman, provided that the inducing or aiding in inducing an abortion, or a miscarriage or a premature delivery of a woman when done for the purpose of saving her life, shall not be deemed criminal, but before resorting to any of said methods of saving a woman's life the attending physician shall use diligence to obtain the advice and help of one or more consulting physicians. Being convicted in any court anywhere of any offense involving moral turpitude, or for violating any federal statute regulating the use or disposition of narcotics, whether committed under color of his professional duty, or connected therewith, or not. The board

may also suspend or revoke the certificate of qualification issued by it if the person in reference to whom said certificate was issued is found by the board to be mentally incompetent to a degree and of a character which renders such person unsafe or unreliable as a practitioner.

Whenever a certificate of qualification has been suspended or revoked, the state licensing board for the healing arts shall be so advised.

Section 267. *Investigation as to revocation of certificate of qualification.*—Whenever written complaint is made to the state board of medical examiners that a physician, osteopath or chiropractor has committed any of the acts or come within any of the disabilities enumerated in the preceding section, the board shall hear and determine said complaint; the said hearing to be held in the office of the state board of health in Montgomery, Alabama. The person whose qualification is under consideration shall have not less than twenty days' written notice of the time and place of the initial hearing, which notice shall be accompanied by a copy of the complaint. Said notice may be served by any sheriff of the State of Alabama or by any member of the professional association of the person charged, and if served by a member of said association, the return of service shall be sworn to by said member before some officer authorized to administer oaths. If said person is out of the state or evades service or cannot be served in person, then the service may be made by mailing a copy of the complaint and of the notice to said person at his last known post office address in this state, and the return shall show that service has been made in this manner. The investigation shall be held with as little publicity as practicable, consistent with a fair and impartial hearing, but said person may elect to have said hearing in public. At the hearing the complainant and the person whose qualification is under consideration, and any other person who may be permitted so to do by the board, shall have the right to introduce all such oral testimony, or written testimony, or both, as the board may deem relevant to the issues involved, and the right to be heard in person, or by counsel, or both. The board may permit the complaint to be amended, but no amendment shall be permitted that is not germane to the charge or charges sought to be amended or that materially alters the nature of any offense charged, or that of any essential specification under a charge. The board shall have the right to determine all questions as to the sufficiency of the complaint, as to procedure, and as to the admissibility and weight of evidence. If the person whose qualification is under consideration absents himself, the hearing may proceed in his absence.

Section 268. *Witnesses; how summoned and sworn.*—To any such hearing witnesses may be subpoenaed by the board on its own motion, or on demand of either side by subpoena signed by the chairman of the board of medical examiners, or by the person at the time discharging the duties of said officer, and such subpoenas may be served by any sheriff of the State of Alabama or by any member of the professional association of the person charged, and if served by a member of the said association the return of service shall be sworn to by said member before some officer authorized to administer oaths. Witnesses may be sworn by said chairman or by the person discharging the duties of said chairman.

Section 269. *Witness failing to attend; penalty; proceedings for.*—Any witness failing to attend shall be liable to a penalty of not less than ten nor more than one hundred dollars to be recovered by the board of



medical examiners if the witness were summoned on behalf of the complainant or by the person whose qualification is under consideration if the witness were summoned on his behalf, by suit in any court of competent jurisdiction. In any such suit the witness may offer in bar of said suit, and have the validity thereof passed upon, any excuse he may have for such non-attendance. In any such suit the return on the subpoena and a certificate of the non-attendance of the witness by the chairman of the board of medical examiners, or the person at the time discharging the duties of said chairman, shall respectively be prima facie evidence of said service of subpoena and said non-attendance.

Section 270. *Compensation of witnesses.*—Any witness attending any such hearing shall immediately upon his discharge as a witness be paid by the board two dollars per day for his attendance and the actual cost of his transportation to and from the place of hearing not exceeding five cents for each mile traveled, to be paid out of the funds of the state board of medical examiners.

Section 271. *Deposit required of party to proceeding.*—If the board is of the opinion that the number of subpoenas desired by said person whose qualification is under consideration is unreasonable it may, for the witnesses above what it considers a reasonable number, require of said person a deposit with which to pay the mileage and per diem of said witnesses. After the hearing the board may return to said person that portion of said deposit which was for witnesses whose evidence shows that they were not unreasonably summoned.

Section 272. *Testimony by deposition taken.*—Evidence by deposition may also be taken, the commission being issued by the chairman of the board and the law and practice as to depositions in courts shall be followed in all reasonable respects; and no such deposition shall be suppressed if fairly taken and no injustice will result from its admission.

Section 273. *Certificate of qualification suspended or revoked.*—Whenever it has been established by the judgment of a court of competent jurisdiction that a physician, osteopath or chiropractist has committed any of the acts, or come within any of the disabilities enumerated in section 266 of this title, the filing of a certified copy of such judgment with the board shall be sufficient to justify the suspension or revocation of his certificate of qualification without further hearing (unless the board is of the opinion that fairness to said practitioner requires that a regular hearing be held); and of such action the state licensing board for the healing arts shall be advised.

Section 274. *Appeal; right and time of.*—An appeal may be taken to the circuit court or court of like jurisdiction of the county in which the person resides whose certificate is ordered suspended or revoked from any order suspending or revoking a certificate of qualification made by said board within thirty days after the rendition thereof.

Section 275. *Statement setting forth facts of order suspending or revoking certificate.*—Any person desiring to take an appeal as provided herein shall, within thirty days after such order suspending or revoking such certificate has been made, file in the office of the clerk of the court to which such appeal is taken a statement in writing setting forth the fact that such order suspending or revoking such certificate has been made, and the ground or grounds upon which such order was made, and the names and residences of the persons constituting such board, and shall also file with such written statement a bond to be approved by the clerk of such

court conditioned to pay the costs of the appeal if judgment be rendered against the party making such appeal.

Section 276. *Citation to chairman of board.*—The clerk of such court shall issue a citation to the chairman or acting chairman of such board requiring him on behalf of such board to appear before such court at a time to be named in such citation, not earlier than twenty days after the service of such citation and not later than the next succeeding session of such court, provided that such appeal is not taken within thirty days next preceding the succeeding session of such court, in which event such citation may be made returnable to the next session of the court to be held after such succeeding session.

Section 277. *Docketing cause.*—If an appeal is taken under the provisions of this chapter the cause shall be docketed in the name of the chairman of such board as plaintiff, with the name of the party whose certificate has been suspended or revoked as defendant.

Section 278. *Issue for trial, how made up.*—The plaintiff in such cause shall, under the direction of the board, file in said court a written statement signed by him as chairman or by the attorney of the board, setting forth specifically the charges against the said defendant and the reasons why the certificate of qualification should remain suspended or revoked, and the defendant shall take issue thereon by pleading the general issue.

Section 279. *Trial by judge without jury; judgment to be rendered.*—On appeal the judge shall hear both the law and the facts and if judgment in such cause is rendered in favor of the plaintiff the court shall enter a judgment affirming such order suspending or revoking such certificate and shall tax the defendant with the costs of such cause; if the judgment is rendered in favor of the defendant the court shall make an order vacating such order suspending or revoking such certificate and shall tax the costs of such cause against the plaintiff.

Section 280. *Jury trial; how demanded.*—Upon a demand in such court in writing by either party to said cause, all the issues of fact in said cause shall be submitted to a jury, to be selected, empaneled and sworn as other juries are selected, empaneled and sworn in civil cases.

Section 281. *Appeal to supreme court.*—The plaintiff or defendant may appeal to the supreme court of Alabama from any judgment rendered in said cause by said court in the same manner as appeals are now taken to the supreme court in civil cases. Upon such appeal there shall be furnished in the bill of exceptions or transcript of the testimony a complete statement of all the evidence taken in the trial of the cause in the court below, and the supreme court shall upon such evidence render final judgment in the cause either by affirming the judgment or by reversing and rendering such judgment as the supreme court may deem proper in the case.

Section 282. *Suspension or revocation of certificate of qualification and report to state licensing board for the healing arts.*—The board of medical examiners shall not order the suspension or revocation of a certificate of qualification unless at least eight members of the board are present at the time such order is made, nor then if two or more of those present vote against such order. Whenever the state board of medical examiners decides to suspend or revoke a certificate of qualification said board shall issue an order of suspension or revocation and shall give written notice thereof to the state licensing board for the healing arts, but if said



board of medical examiners receives written notice of appeal from its decision, as herein provided, it shall withhold said notice of suspension or revocation from such licensing board until such time as the result of the appeal becomes known.

Section 283. *Effect of revocation; issue of new certificate.*—Whenever a certificate of qualification has been suspended or revoked it shall be unlawful for the person whose certificate of qualification has been so suspended or revoked to practice his profession in this state, but the state board of medical examiners may issue in behalf of such person, either with or without re-examination, a new certificate of qualification whenever it deems such course safe and just. Upon the issuance of such new certificate of qualification such person may apply to the state licensing board for the healing arts for license to re-enter the practice of his profession.

Section 284. *Examinations held at Montgomery.*—All examinations under this chapter shall be conducted at Montgomery and the state board of medical examiners shall fix the time at which examinations shall be held annually.

Section 285. *Fees for examination; payment of.*—The fee for an examination shall be twenty-five dollars, which amount must be paid in advance of the examination, and to such person as the board may authorize to receipt therefor. A fee shall not be returnable to an unsuccessful applicant, but such applicant shall be entitled to a second examination without paying an additional fee, provided such second examination is obtained within one year after the date of the first examination.

Section 286. *Compensation of board of examiners.*—After defraying all expenses of holding an examination, such as furnishing blanks, paper, postage, certificates, etc., the services of supervisors, clerical help, etc., the remaining funds shall be equally divided among the ten members of the state board of medical examiners.

Section 287. *Records of examinations kept by board.*—The state board of medical examiners shall keep complete records of all examinations held by it, giving the name, age, residence, college, and date of graduation of such applicant examined, together with the results of such examination, which record shall be open to inspection. The said board of medical examiners shall also keep complete minutes of all of its proceedings, which minutes shall be so preserved as to be easily accessible should occasion arise for referring to them.

Section 288. *Domestic and family remedies excepted from statute.*—Nothing in this chapter shall prohibit the administration of domestic remedies in a family by any member thereof, or prohibit any person from rendering service to a sick or injured person in an emergency.

Section 289. This act shall become effective on January 1, 1960, after its passage and approval by the Governor, or its otherwise becoming a law, provided that three certain bills have become law on or before said effective date, to-wit, a bill known as the "Alabama Basic Science Law" (H.B. 151 or S.B. 76) and a bill creating a board to be known as the "State Licensing Board for the Healing Arts" (H.B. 150 or S.B. 75), and a certain bill creating a state board of chiropractic examiners (H.B. 152 or S.B. 77).

## COMING EVENTS

October 11. Symposium on Modern Clinical Medicine, co-sponsored by Alabama AGP, Medical College of Alabama, and Lederle Laboratories, Tutwiler Hotel, Birmingham.

October 16-17. Second Annual University of Alabama Medical Center Alumni Seminar.

October 18. Dedication of the Luther Leonidas Hill Heart Center, Hillman Building, Medical Center, Birmingham.

October 26. Alabama Dermatological Society, Hillman Clinic, Medical Center, Birmingham.

Alabama Society of Medical History, Hillman Auditorium, Medical Center, Birmingham. Speaker: Dr. S. C. Sen, New Delhi, India. Open meeting.

October 22-23. Gulf Coast Clinical Society, 1959 scientific sessions, Admiral Semmes Hotel, Mobile.

October 30. Alabama Roentgen Ray Club, Bankhead Hotel, Birmingham.

November 7. Alabama Association of Obstetricians and Gynecologists, Mobile Country Club, Mobile.

November 1-4. The American Fracture Association, 20th annual meeting, Roosevelt Hotel, New Orleans, Louisiana.

November 16-19. Southern Medical Association, 53rd Annual Meeting, Atlanta, Georgia.

**Heart Operations Successful on Rheumatic Fever Patients**—Young persons who have had rheumatic fever may safely undergo heart surgery, provided the disease is inactive, three Philadelphia doctors have reported.

Writing in the September 19 issue of the Journal of the American Medical Association, they asked that neither a patient's age nor the fear of recurring rheumatic fever deter heart surgery.

Drs. Albert Brest, Joseph Uricchio and William Likoff of Hahnemann Medical College, Philadelphia, stressed the importance of operating when rheumatic fever is not active, and gauged the chances for a successful operation on this point.

Cardiac operations on rheumatic heart disease patients under 20 years old are rare, the doctors said, even when serious disability is present. They gave two reasons for this reluctance to operate. One is the belief that heart failure symptoms in this age group mainly arise from active rheumatic inflammation of the heart, rather than from a defective heart valve. Also, it is claimed that surgery reactivates the rheumatic fever of a person under 20.

Drs. Brest, Uricchio and Likoff questioned these concepts on the basis of their operations which showed that a mechanical obstruction may be the sole cause of a young rheumatic heart disease patient's worsened condition.

They added that failure to consider a mechanical heart defect may lead to an unnecessary prolongation of a critical disability.





## ASSOCIATION FORUM

## MEDICAL HISTORY OF ALABAMA

By

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*Editor's note:* This is a posthumous reprinting of a contribution made by Dr. Donald to *De Historia Medicinae*, official publication of the Alabama Society of Medical History, issues of October and December 1958 and February 1959. It is a valuable addition to Alabama's medical history. Dr. Donald died in August.

PART I: THE STATE MEDICAL ASSOCIATION AND  
THE STATE BOARD OF HEALTH

When Alabama was admitted to the Union in 1819, the population of the State was 127,901. There were very few trained physicians, and the people, more often than not, were treated by quacks and charlatans. Towns were few, roads poor, and a man proceeded from one place to another by horseback. The Tusculumbia railroad, which was 2.2 miles in length, was the first in Alabama. It was fired by wood and sometimes horse drawn.

On December 22, 1823, the Governor signed the first Medical Practice Act. Twenty-seven years later, in 1850, by Act of the Legislature, the State Medical Association became a chartered body. It was empowered to adopt a constitution and to pass such laws as were deemed necessary for its own government. From this beginning the Association has developed the best health system of any state in the Union, and it is completely free of any political interference. Five of its members have held the presidency of the American Medical Association. Its ranks included scientists who were key figures in the control of yellow fever, malaria, and other infectious diseases. Finally, Alabama physicians have established medical institutions whose alumni are responsible for the greater part of this state's progress in medicine.

In this paper, we shall discuss Alabama Medicine in three parts. First, we will consider the activities of the Medical Association and the Board of Health; second, the accomplishments of those members who have won state, national or international fame, and, lastly, the history of the various institutions for medical training.

The first Medical Practice Act was adopted and approved by Governor Israel Pickens on December

22, 1823, four years after Alabama was admitted to the Union. The act provided that all practicing physicians must be licensed. If they were not, their fees were legally non-collectible. It further provided that there be an annual examination for licensure. This was carried out by five physicians, three of whom were elected by joint vote of both houses of the State Assembly. These men were compensated at the rate of three dollars for each examination and five dollars for the license.

These funds were to be set aside for the purchase of a medical library for the use of the Medical Board. Nine years later the Medical Practice Act was amended to exclude from licensure those who practiced medicine by the botanical system of Dr. Samuel Thompson. This system included venesection, application of fly blisters and the administration of calomel, opium, et cetera. During the next fifteen years the Legislature authorized the Boards to examine and license applicants to practice dental surgery.

At mid-century, the Medical Association received its charter and began work on the establishment of a hospital for the insane. As a result a state hospital for the insane was opened at Tuscaloosa in 1860. Dr. Peter Bryce became its first superintendent and served in this capacity for thirty years. In memory of his outstanding work the hospital is now known as Bryce Hospital.

## MEDICAL SOCIETIES

South Alabama saw the establishment of the first corporate medical society. It met initially in Selma, January 30, 1839. Two years later, four Mobile physicians, Josiah C. Nott, Henry S. Levert, Solomon Mordecai, and John W. Woodcock, petitioned the Legislature for a charter, and the Mobile Medical Society was granted articles of incorporation. They were also empowered to organize a board of health, and procure necessary information and advice concerning the health of the city.

Actually, one of the first public health problems of the State occurred in the Mobile area. Yellow fever had been the curse of the city since the days of Bienville, and scarcely a year passed without the death of many citizens, especially during the



"sickly season" from July to December. In the year 1839, thousands were ill with yellow fever and 600 people died.

A very severe epidemic of yellow fever in 1853 resulted in 1191 deaths in Mobile. One of every three victims of the disease died. The official population of Mobile in 1850 was 20,515, but three weeks after the 1853 epidemic began there were only ten to twelve thousand citizens left in the city.

At a time when many people left the city to save themselves, four physicians stayed to fight the disease. They were Drs. Josiah Nott, Henry S. Levert, F. A. Ross, and George Ketchum.

The Montgomery or Sydenham Medical Society was incorporated by Act of the Legislature on February 1, 1850, just twelve days before the Medical Association of the State of Alabama became a chartered organization. The latter charter included legal means to rid the profession of irregular men, who, with their numerous pretensions, secured the confidence of the inhabitants. They were responsible for the many deaths which they often laid skillfully at the door of the regular practitioners.

The urgent need to correct these irregular practices and to enlighten the public was proclaimed by Dr. H. V. Wooten, who resided and practiced medicine in Lowndesboro, Alabama, from the time of his graduation at Pennsylvania University Medical School until his death. In an address to the first anniversary session of the State Medical Association at Selma on March 9, 1848, he pointed out the need for united effort on the part of physicians, the need of a uniform and just code of ethics, and the need of government control of the procurement and distribution of medicine and drugs.

In 1854, Dr. S. Lopez of Mobile told the Association that the safety of the people against disease was the highest law, and thereby set the stage for the formation of the State Board of Health. However, it was not until 1875 that the Legislature cooperated in its legal formation.

In 1855 there were 149 members in the State Association, although annual meetings were not the usual thing.

#### FOUNDING OF STATE BOARD OF HEALTH

There were no state medical meetings held between 1855 and 1868, and the statute creating the Board of Health in 1872 read: "The County Medical Societies in affiliation with the State Medical Association are hereby constituted Boards of Health for their respective counties."

Later, the Legislature approved, on September 29, 1919, a proposal by Dr. W. Prude McAdory of

Birmingham that the Board of Censors of the County Medical Societies, rather than the Society as a whole, constitute the County Board of Health. The duties of the latter were to secure a uniform system of sanitary supervision throughout the State.

On April 11, 1879 the first appropriation for public health was made in the sum of \$3,000.00, and Dr. Jerome Cochran of Mobile was chosen State Health Officer. His salary was \$1,500.00 per year for five years. He was reappointed and served until his death in 1896.

In 1907 the appropriation was increased to \$15,000.00 per year and again in 1911 to \$25,000.00 per year.

Dr. Cochran led a rather interesting life. A shy native Mississippian, he opened an office at Mobile. He was 34 years old, without friends or funds, and had served in the Medical Corps of the Confederate Army. In Mobile he became acquainted with Dr. George A. Ketchum, leader in medical and civic circles of the city, who sponsored his membership in the Medical Society. Dr. Cochran soon took an active interest in the improvement of the health of the city and became Health Officer of Mobile. He helped to battle epidemics of yellow fever, typhoid and malaria. (At that time the mosquito was suspected to be the carrier of yellow fever and malaria. General William Gorgas of the United States Army, and a Cuban physician, Dr. Carlos J. Finlay, first identified the *Stegomyia* mosquito in 1901.)

Dr. Cochran's fame in health circles was enhanced when he was appointed a member of the National Yellow Fever Commission. By this time, through his activities with the State Association and his views on health matters, he had become a dominant factor in the reorganization of the Medical Association and establishment of a Board of Health. At the Montgomery meeting, 1870, Dr. Cochran offered a program for reorganization of the Association. This was adopted at the Tuscaloosa meeting in 1873, and became law in 1875. The Medical Association of the State of Alabama was invested with the powers and responsibilities of a State Board of Health. Such functions were to be exercised through such organs as the Association might think best. Each County Medical Society was invested with the functions of a County Board of Health to govern the health of said county. Through the adopted constitution of Dr. Cochran, the Association became a quasi-legal agency for the primary purpose of conducting the health affairs of the State. In eulogy of Dr. Cochran's duties to the Association and his accomplishments while health officer, Dr. L. L. Hill, of Montgomery, in his annual message while President of the Association in 1898, recommended that future



presidents of the Association appoint some eminent medical man to deliver an address to be known as the Jerome Cochran Lecture. The proposal was adopted by the Association and throughout the years such a lecture has been an outstanding scientific feature of the annual program.

Dr. William Henry Sanders of Mobile was chosen to succeed Dr. Cochran, thus becoming Alabama's second State Health Officer. During his 21 years in this capacity his attention was given to improving and upholding the principles of the Association and Board of Health as outlined by Dr. Cochran. He resigned because of poor health one year before his death, January 2, 1918. Under Dr. Sanders' guidance the first full-time health unit, the second in the nation, was established in 1914, headed by Dr. Carl Grote, who served with distinction in this capacity for several years. After resigning, Dr. Grote moved to Huntsville, and became engaged in general practice, and is now one of Alabama's outstanding physicians.

In 1917 Dr. Samuel W. Welch of Talladega was chosen Health Officer to succeed Dr. Sanders. His abiding interest in health measures of Alabama, coupled with the aid of the Rockefeller Foundation and U. S. Public Health Service, contributed materially over a number of years to the expansion of Alabama's soundly planned health program, both regarding finance and talent. Under his leadership the health program of Alabama grew with momentum and by 1924 had attracted wide attention. Visitors from other States and many foreign countries came to observe the organization's work. Dr. Welch's last report was in 1928, when he reported total expenditures of \$686,767.00. The wise expenditure of this money was evident in the control of typhoid fever, malaria, hookworm, and serious outbreaks of communicable disease. The state organization was headed by well-trained, capable, energetic men, all devoted to Dr. Welch. During his administration, he organized 48 county health units. This gentleman had three desires of life, after becoming Health Officer of Alabama: (1) to live to see his son receive his degree as Doctor of Medicine; (2) to survive until the Association could point with pride to an organized health unit in each county in the state; and (3) to continue active until the end. Only the last was granted him. Dr. Welch died on the morning of August 22, 1928, in Montgomery, of coronary thrombosis after an apparent illness of less than 24 hours. Dr. Douglas Cannon, present Secretary of Alabama's State Association, writing on the life and accomplishments of Dr. Welch, stated, "Thus, there slipped into the shadows another distinguished son of Alabama." Following the death of Dr. Welch, the late Dr. Stuart Graves, Dean of the two-year Medical School at Tuscaloosa, and Dr. Douglas Cannon, of Montgom-

ery, were appointed temporary health officers of Alabama for two years. On April 18, 1930, Dr. J. Norment Baker of Montgomery, Alabama, became fourth State Health Officer. Dr. Baker had held the office of Secretary of the Association from 1906-1915 and was a former member of the State Board of Censors. Three years after Dr. Baker accepted the reigns of Health Officer the 1933 financial crisis descended upon the state, and public health service was deemed non-essential. Thus, the number of full-time county health units was reduced to 46. Four years later, 1937, saw the greatest expansion and development of the public health program in Alabama for any year prior to that time, due to availability of funds from the state, counties, and federal subsidies. The fame of Alabama's public health program was evident from the fact that, in 1939, 188 visitors came to Alabama from Africa, South America, Canada, Europe, and Asia to review its work. In 1941 Dr. Baker stated the chief difficulty confronting the public health program was the lack of properly trained personnel. On November 9, 1941 Dr. Baker died suddenly in Montgomery, having served with distinction as health officer for eleven years. Following his death Dr. B. F. Austin served one term as health officer. He was succeeded by Dr. Daniel G. Gill, who was elected April 15, 1947. For the past eleven years Dr. Gill has carried out health officer duties with distinction, as fostered by Jerome Cochran, William H. Sanders, Samuel Welch, and Norment Baker.

Considering the primitive conditions in Alabama at the time of its admission to the Union, and the scarcity of trained physicians, the State Medical Association became a recognized body only by virtue of diligent work of its leaders. These men saw the dire need for a Board of Health to control the ravaging diseases which Alabama faced during the early 1850's.

The accomplishments of Alabama's Board of Health, which ranked first in the nation, were the result of the untiring efforts of the men in charge of this department of medicine.

#### PART II: PIONEERS OF ALABAMA MEDICINE

In thinking of Alabama's outstanding medical men, the names of H. V. Wooten, Jerome Cochran, Josiah Nott, Claudius H. Mastin, John Allan Wyeth, Marion Sims, Peter Bryce, John and Elias Davis, William C. Gorgas, William McDowell Mastin, Walter E. Sistrunk, L. L. Hill, Roy Kracke, James S. McLester, James M. Mason, Seale Harris, and many others come to mind.

Because of limited space only three physicians will be described here: John Y. Bassett, William Owen Baldwin, and LaFayette Guild. They are not meant to be more highly esteemed than the



others but have been chosen rather because they typify the spirit of the true physician.

JOHN Y. BASSETT

But for a series of fortuitous circumstances, John Y. Bassett might never have been rescued from oblivion. In looking over the literature of malarial fevers, Sir William Osler chanced upon Dr. Bassett's articles in Fenner's *Southern Medical Reports*. He was so fascinated by the charm of these philosophical essays that he set about piecing together his life. The result was *An Alabama Student*, Osler's most popular biographical work.

John Bassett was born in Maryland on June 12, 1805, one of three brothers and one sister. With his younger brother, Frank, he came to Huntsville and opened a drug store; Frank attended to the sale of drugs, while John became one of the town's regular physicians. His older brother, William, was an officer in the Navy. The sister, Margaret, a maiden lady of advanced age, disappointed in her hopes, and liberally endowed with bitter sarcasm, hung like a weight upon John. The bitterness of her tongue stirred up much strife in the community, and was a profound influence on John's life.

Huntsville was at that time a community of refinement, peopled by a wealthy class of citizens. It was into such surroundings that Dr. Bassett came, a stranger without prestige or fortune. He was considered a materialist in his views, an infidel in his beliefs, and was consequently endured rather than sustained by the community. His practice was limited to the denizens of the hills, hollows, and caves of the surrounding country, which yielded small support for his family. Yet he managed to save enough for a trip abroad to study. After one year in Europe, he returned to Huntsville, and, since few medical men had the advantage of foreign schools, the people were inclined to regard Dr. Bassett in a more favorable light. He was even called into consultation by those who previously had shunned him. His family could now enjoy a more comfortable life. One of his sons, Henry W. Bassett, grew to be a fine man and physician.

Bassett is best described by his biographer, Sir William Osler, who saw him as "a brilliant individualist, who had a likeness to the wisest and a kindred to the greatest; a model of professional excellency, a full realization of the true Hippocratic ideals, a man of abounding contrasts, the one consistent note in his life being his dedication to medicine."

Dr. Claudius Mastin, who served a preceptorship under Dr. Bassett, regarded him as "a classical scholar, a superior student of medicine, an outstanding surgeon, an inspirer of many men of

medicine, an original thinker, and a brilliant prose writer." Dr. Bassett died of tuberculosis on November 2, 1851, in Huntsville, at the age of forty-six.

WILLIAM OWEN BALDWIN

About four miles north of the site where the city of Montgomery was later incorporated, William Owen Baldwin was born of pioneer stock on August 9, 1818. When he was nine years old, his father died leaving a widow and seven children. Little is known of his childhood, except that he lived on a plantation near the Indian reservation which was located between Montgomery and Columbus, Georgia. Dr. Baldwin did not go to college, but at sixteen years of age began to read medicine with Dr. J. C. McLeod, the leading physician of that day, in Montgomery. In the fall of 1835 he matriculated in the Medical College of Transylvania University, Lexington, Kentucky, where his dissertation on "Puerperal Fever" is still on file.

In May 1847 he began the practice of medicine in Montgomery and, three years later, entered into partnership with his former preceptor, Dr. J. C. McLeod, who died one year later. Dr. Baldwin continued to practice alone until 1848 when he and Dr. William Bolling formed a partnership which continued for four years, until Dr. Bolling's death.

Dr. Baldwin had seven children. The eldest, William Owen, Jr., was a Captain in the Confederate Army and was killed at the age of nineteen. Dr. Baldwin gave freely of his time and services to the Confederate cause, attending frequently on the battlefield. He was often in the thick of cannon fire but escaped without serious injury.

In December 1849 Dr. Baldwin delivered the annual address to the State Medical Association, in which he always took an active part. His paper "Physic and Physicians" was so well received that funds were allotted for printing and distributing it to the public. At the close of the Civil War a group of Southern doctors attended the American Medical Association, and on May 7, 1868 he was elected President of the Association. His acceptance speech was a masterpiece in its content, concerned with the unification of spirit of the northern and southern practitioners of medicine. He believed strongly in medical societies as a means of promulgating new advances in medical practice, and actively supported all such organizations. Until his death he served as a member of the Board of Trustees of the Medical College of Alabama, then at Mobile. Dr. Baldwin contributed many papers to the literature of his profession, and these are judged brilliant as well as scientific. His paper on "The Poisonous Properties of the Sulphate of Quinine" (*American Journal of the Medical*



Sciences, 1847) was translated into several foreign languages. It is referred to in English and French periodicals, the standard works on toxicology, and also in the *Dispensatory of the United States* (1849, 8th edition, p. 1120). In 1884 he had an attack which was diagnosed as heart disease and never fully recovered. He died on May 30, 1886 in Montgomery.

## LAFAYETTE GUILD

One of the most striking and illustrious men in the medical profession of Alabama was Dr. LaFayette Guild. It has often been stated that of the medical profession of the entire South he attained the greatest distinction during the Civil War. He was appointed Surgical and Medical Director of the Army of North Virginia by General Robert E. Lee.

His father, Dr. James Guild, of Tuscaloosa, was also a famous surgeon, having gained recognition for his success in the removal of stones from the bladder. In 1824, the year before LaFayette Guild's birth, the famous French General LaFayette paid a visit to Alabama. Dr. James Guild was much impressed with the General and named his second son, LaFayette, from a deep respect for General LaFayette.

As a child LaFayette Guild played in the countryside near his home in Tuscaloosa, and one day found some curious black stones. He took these to his father, and, it is said, this marked the discovery of coal in that region. Dr. Guild received many honors while at the University of Alabama, where he received his A. B., and later his M. A. degree in 1845. Three years later he received his M. D. degree from Jefferson Medical College. While there, he was admired as much for his culture and gentleness of disposition as for his high scholastic rank.

The love of adventure led him to join the United States Army in 1849. In that year he was assigned to Key West, Florida, where he was associated with Captain Josiah Gorgas, father of Alabama's greatest native son in the field of medicine, General William C. Gorgas. Dr. Guild became very fond of little William Gorgas, and often cared for the child in his parents' absence. From Key West he was transferred to Governor's Island, off the coast of Boston. It was while stationed there that he wrote his famous treatise on yellow fever, which was published by the United States Government. He was the first to insist that yellow fever is infectious although not contagious, a theory new in that day. Later this was tested and proven by Dr. William Gorgas in 1900-01.

From Boston Dr. Guild was assigned to the Pacific Coast where he witnessed many scenes of Indian warfare. Following an Indian raid he found

a baby Indian girl strapped to her dead mother's back, lying in a ravine. He took the baby home, and named her Ravina. He and his wife had already taken in an Indian boy, and they reared and educated both children. They were never blessed with children of their own.

While he was in California the Civil War broke out, and Dr. Guild sacrificed all his accumulated means and his popular and lucrative position with the Army to return to Tuscaloosa, where he enlisted with the Confederate Army. In July 1861 he was called to Richmond where he was appointed Surgeon in the Confederate Army. He became a close personal friend of both General Robert E. Lee and one of the greatest strategists of the Civil War, General Joseph E. Johnston. When General Johnston was wounded at Seven Pines and General Lee took command, General Lee's first inquiry was, "Where is Dr. Guild? Have him report to me at once." It was at Seven Pines that General Lee appointed Dr. Guild Medical Director and Chief Surgeon of the Army of North Virginia. From that time until the end of the War he sustained the closest possible personal relationship with General Lee. This is reflected in the General's many reports to the President.

The War left Dr. Guild wrecked in health, but his energetic spirit and the hope that he would regain his strength kept his body sustained. He returned to Mobile at the close of the War, and was appointed Quarantine Inspector of Mobile. It was only through his skill and diligence that the ravages of yellow fever were stayed during that period. Still hoping to regain his rapidly failing health, he moved to California where he was appointed Visiting Surgeon at the San Francisco City and County Hospital in 1869. He was able to practice, however, for only about one year. He was diagnosed as having "rheumatism of the heart," and he died in California in 1870 at the age of forty-five. His body was sent back to Tuscaloosa for burial in Evergreen Cemetery.

## PART III: MEDICAL EDUCATION IN ALABAMA

The idea of medical education in Alabama was given impetus in 1845 when the State Assembly granted a charter for the creation of a medical university at Wetumpka. The charter provided for a board of trustees who were authorized to elect a medical faculty for teaching the various branches of medicine and to grant diplomas, with all privileges of practicing medicine commensurate with other reputable medical schools of the United States. One year after the initial charter was granted, no progress had been made in locating the medical school at Wetumpka; the Assembly, therefore, amended the charter with *proviso* giving the board of trustees the power to select another location in the State for medical



training. Again the idea failed to develop. In 1849 the General Assembly granted a charter for the state medical school to be located at Montgomery, with the stipulation that the school was to run for fifty years, but again the charter was not utilized.

In 1852 the Grafenberg Medical Institute was chartered to run for ten years with all the privileges of medical teaching and holding property assessed at \$25,000. Four years later the charter was amended to run for twenty years from the original date. The institution was owned and operated by Dr. Philip Madison Shepard of Dadeville, in Tallapoosa County. Dr. Shepard was a native of Georgia and a graduate of the University of Georgia Medical School in Augusta. His institute, located near Dadeville, ran for eight years. During the War Between the States, Dr. Shepard died; the buildings were burned and the institute was never rebuilt. Dr. Shepard's life and work are well covered by Dr. Howard Turner, a former Alabamian and now Associate Professor of Medicine at Tulane University, in his book, "Grafenberg: The Shepard Family Medical School."

A charter was issued in 1854 to the Hydropathic Institute to be located at Rockford in Coosa County. The school was never established.

In 1856 the General Assembly granted a charter for the establishment of a medical school in Mobile. The act was vetoed by Governor John A. Winston but was passed over his veto by the constitutional majority of the Assembly. Three years later the Medical College of Mobile was organized and incorporated on January 30, 1859 as a Department of Medicine of the University of Alabama. By mutual agreement the University contributed no financial aid to the medical school, and the operating and staffing was in the hands of the medical staff. The trustee of the University of Alabama from Mobile acted as an *ex-officio* member of the medical board. The charter of the Mobile medical school was written by Dr. Josiah C. Nott of Mobile, one of the greatest surgeons of his era. His interest in establishing the school in Mobile came while he was Professor of Anatomy of the University of Louisiana, now Tulane University.

The citizens and physicians of Mobile raised \$100,000 and the Legislature appropriated \$50,000 for the purchase of property and erection of a building. The equipping of the school was supervised by Dr. Nott and as a result its museum was regarded as the best of its kind in the United States. Dr. Nott traveled abroad and brought back many of the museum's more interesting specimens. The school was staffed by able men. Dr. W. N. Anderson was first Dean, and held this position for twenty-five years, retiring just three

years before his death. He was succeeded by Dr. George A. Ketchum. The first class was graduated in 1861; others followed, excepting the years 1862 to 1868, until 1920, when the medical school closed. The school was taken over by the Freedmen's Bureau from 1865 to 1868 and used as a Negro school. During this three-year period, much of the valuable equipment and many museum pieces were destroyed or lost.

The Mobile medical school ran on a two-year basis until the early 1890's when the course was increased to three years. From approximately 1905 until the school closed in 1920, four years of study were required for graduation. The school became more modernized, obtained better clinical instructors, and established well-staffed laboratories. This enabled the school to pass successfully repeated rigid inspections of various national boards. The only source of revenue for the school was the fees of the matriculants, which were markedly reduced after the four-year course was required. This reduction in the number of students, plus the short-sightedness of the Alabama Legislature in not providing sufficient funds for maintaining a class A institution, caused the closing of the Mobile Medical College. Dr. Ketchum's period as Dean was followed by these men who served with distinction: Dr. Rhett Goode, Dr. George Bondurant, and Dr. T. G. Frazer.

In 1872 the Southern University at Greensboro, Alabama, supported by the Methodist Church, opened a medical department. This was staffed with men of ability covering the different branches of medical teaching. Special emphasis was placed on the department of anatomy which was well equipped with dissecting rooms. Due to limited hospital facilities, bedside instruction was inadequate. The courses ran nine months. For graduation applicants had to be twenty-one years of age and of good character; two years of medical study under suitable instructors were required as well as two full courses of medical lectures, the last of which had to be taken in that institution. This medical department ran for only eight years.

In the spring of 1895 Dr. J. A. B. Lovett came to Bessemer and organized the Montezuma University Medical College which was opened in October 1895. Its first class was graduated in 1897; on May 25, 1898 the building burned and the school was not reestablished. The building itself had quite an interesting background. Originally it had been the headquarters of the Mexican exhibit at the World's Fair in New Orleans, 1884-85. It had been judged the most unique and attractive building of the fair. It was moved to Bessemer and used as the "Montezuma Hotel" until Dr. Lovett acquired it for the Medical College in 1895.

The Birmingham Medical School was organized



and chartered in 1894 and the faculty was staffed with well qualified men. The first session was 1894-95 and opened with thirty-two matriculants. It ran as a three-year school until 1905 when it was increased to four years. The first home of the school was a five story building located at 209-11 North Twenty-First Street. In 1895 one student was graduated. The next year thirty-two students enrolled and there were two graduates. Each succeeding year the number of graduates increased. During the twenty-one years the school operated, from 1894 to 1915, there were 351 graduates. There are among its alumni, just as of that of the Mobile college, some of the most prominent members of the medical profession of Alabama and other states.

The Legislature in 1896-97 confirmed incorporation of the college, declaring its powers and conferring additional rights and privileges. In 1903 the Birmingham Medical College was reorganized and a lot was purchased adjacent to Hillman Hospital. A modern building was erected and the first session in the new building was in the fall of 1908. The curriculum was approved by the Council on Medical Education of the American Medical Association and adopted in April 1909. Throughout its entire history the college kept pace with progress, regularly provided additions to its material and equipment, and improved in every way the efficiency of its teaching.

Since there was no endowment of the school by the wealthy citizens of Birmingham to meet the demand for still larger professional opportunity, it was decided by the authorities to reorganize the school; the entire property was turned over to the University of Alabama for use as a graduate school of medicine. This decision was reached following a proposal by Dr. George Denny, President of the University of Alabama, during a joint conference of representatives of Birmingham Medical College and the Mobile Medical College. The purpose of this conference, which was held in Tuscaloosa in September 1912, was to discuss the economic status of both schools and their status in the remaining class A institutions. After a three hour discussion of the history of both schools and their present economic problems, it was felt that Alabama was well supplied with physicians, and that the state was economically able to support only one four-year school adequately. Dr. Denny recommended that Mobile continue the four-year course, and since Birmingham offered unusual clinical material, a graduate school should be located in Birmingham. Its doors as an independent institution were closed with the completion of the session of June 1915. An alumni association was organized among its graduates. The following men served as Dean: Dr. W. H. Johnston, Dr. B. Leon Wyman, Dr. Lewis C. Morris,

and Dr. James S. McLester.

Following the closing of the four-year medical school at Birmingham in 1915 and the medical school at Mobile in 1920, medical training in Alabama consisted of the two-year basic science program at Tuscaloosa. All the two-year graduates, who averaged about fifty per year, were forced to transfer to other states for their third and fourth year clinical work. Many of these graduates did not return to Alabama to practice medicine. Within a few years the shortage of physicians became quite apparent, particularly in the rural districts of the State. In 1925 there were 2,122 doctors in Alabama; in 1943 there were only 1,864. By 1943 fifty per cent of Alabama's doctors had reached the age of sixty or more, and many had retired, although their names remained on the active rosters of the medical societies in their counties. In 1916 there were thirteen doctors in Autauga County; in 1943 there were only seven. Similar depletion of doctors occurred in counties throughout the entire State.

The need for a four-year medical school in Alabama began in the mid-twenties, but steps to provide such a school did not become active until 1938. At that time the Medical Alumni Association of the University of Alabama and the Medical Association of the State of Alabama each appointed a committee with Dr. W. D. Partlow, Superintendent of the Alabama Hospital for the Insane, serving as joint chairman. Dr. Partlow worked unceasingly for years to mold public opinion in favor of the Legislature's providing funds to support a first-class medical school. He was assisted by the County Medical Societies which appointed local committees to confer with the legislators urging them to support legislation for the four-year medical school.

Response was so gratifying that Governor Chauncey Sparks, in his inaugural address in January 1944, included the establishment of a four-year medical school as one of his major objectives. The Legislature, without dissenting vote, passed the bill which Dr. Partlow sponsored, providing one million dollars for buildings and equipment, and annual maintenance of \$366,000. Dr. Partlow's bill included other stipulations. The name of the school was to be the Medical College of Alabama, as the charter of the Mobile school provided in 1858. This would give the school individual prerogative, although the school was to be a department of the University of Alabama. It was intended that the future Dean of the medical college could go directly to the Legislature to ask for separate appropriations, and not have them included in the budget of the University of Alabama. The bill also appropriated \$400 a year for a scholarship in each of the sixty-seven counties in Ala-



bama, thus stimulating the number of doctors in the rural counties.

Birmingham was selected as the location for the Medical College of Alabama because of its accessibility and large population. In the summer of 1945 clinical instruction was begun and the school of basic sciences was transferred from the University campus in Tuscaloosa. The first M. D. degrees were conferred on October 25, 1946, to a class of twenty-one graduates. The first Dean was Dr. Roy Kracke, an alumnus of the two-year basic science school at Tuscaloosa who received his clinical work at Rush Medical School, graduating in 1927. Following him in succession as Dean were Dr. Tinsley R. Harrison (1950-51), Dr. James J. Durrett (1951-55) and Dr. Robert C. Berson (1955-).

More than a century has passed since Dr. Shepard opened his school in the woods of Tallapoosa County. The change from the requirements of only a few months training in his day to today's minimum requirement of four years of graded curriculum and one year of internship shows the tremendous progress made in Alabama's medical education during this century.

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#### MAN IN SPACE

Brigadier General J. A. Barclay

Commander, Army Ballistic Missile Agency  
Huntsville, Alabama

Throughout his long history man has been held to the earth by a gravitational pull which is so strong that it can hold a satellite in orbit as far out as one million miles. Beyond this distance the gravitational field of the sun gradually becomes predominant for a space vehicle, and the only influence the earth can exert upon it is in the form of disturbances.

On March 3 of this year the Army launched a scientific payload for the National Aeronautics and Space Administration which passed this point of no return. PIONEER IV continued on its lonely way through the black and silent void of space to become a satellite of the sun. Its successful escape from earth's gravity added fuel to a burning hope that manned space flight will eventually become a reality.

The swift technological strides in ballistic missile development during the past decade have solved the major engineering problems of placing instrumentation greater than the weight of man into satellite orbit.

Delicate instruments have been flown into outer space in the nose cones of ballistic missiles and

recovered without damage from the heat of re-entry into the earth's atmosphere and impact in the ocean. This was demonstrated more than a year ago with missiles developed at the Army Ballistic Missile Agency.

The major problem is no longer that of establishing total performance and reliability of available carrier systems. The major unknown in determining whether manned space flight will eventually become a reality is man himself. Once again, the technological and mechanical achievements of man's mind and manual skills have outstripped his knowledge of how to adapt himself physiologically to new machines and to a new environment. Many questions must be answered before the first astronaut ventures into space. How will man's bodily functions be affected by prolonged weightlessness of space travel? Will his normal digestive and metabolic processes change? How will his mind react to this suspended state? Will he be able to sleep and permit the body's regenerative processes to renew his strength? Will his brain cells perform normally and adequately? All these questions and many more must be faced and solved conclusively before we can safely undertake any program of actual space exploration.

Doctors in the biomedical field are faced with a challenge of unprecedented proportion and complexity to assure man's survival in the hostile environment of space and his safe recovery from beyond the atmosphere. The value which we place upon human life dictates that complete and dependable protection be afforded the traveler against all hazards, either presently known, anticipated, or as yet undiscovered and unexpected.

Since early 1958 considerable progress has been made in rocketry and space technology. I am justifiably proud that my agency contributed to the nation's space exploration efforts by the successful launching of three earth satellites and two probes into deeper space. And during this period great efforts were made in the medical and biological sector of astronautics to keep pace with this progress in its technological sector. Let me define just what I mean by space, and outline some of the problems man will face if he enters this strange new environment, and relate some of the progress made in paving the way for his first space journey.

One may consider there are three plateaus on the ladder into space round the earth. Beneath the first plateau is the natural environment in which man has flourished during his thousands of years on this earth. The climate is tolerable nearly all year round, except for the polar regions. There are air and sunshine, and sufficient food, shelter and clothing in most cases for his survival.

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Read before the Alabama Chapter, International College of Surgeons, Huntsville, May 21, 1959.



The first two are more or less free, and so far untaxable. Man does very well without too much protection or covering for his body as long as he stays within this range. But at 12 miles above the earth he runs into serious trouble.

This is the physiological zero line of air pressure, at which oxygen absorption ceases and the environment for the unprotected human body attains the equivalent of a vacuum. Man can fly at this altitude, but he needs a pressurized cabin supplied with oxygen, or a high-altitude flier's suit which provides similar protection.

At 30 miles above earth he reaches the technical zero line for useful aerodynamic lift and navigation by control surfaces. He extends his operations above this line exclusively through ballistics, and navigation by control surfaces, such as wings, fins, and rudders, must be replaced by reaction control.

There is air above this point, but it is too rarefied to aid man's travels. The mechanical zero line of air resistance is about 120 miles. It is here that "outer space" actually begins. Here the laws of celestial mechanics, unhindered by air resistance, are fully effective. It is this area and beyond that I will discuss today as the virgin area for man's greatest adventure.

Considerable preparation for man's jump-off into space has been made through the growth of aviation medicine as successors to Orville and Wilbur Wright's flimsy craft at Kitty Hawk have flown higher and faster. Aviation medicine has a 40-year history, and has come into its own, an accepted subspecialty in the American Board of Preventive Medicine, along with public health and occupational medicine. The 30th annual meeting of the Aero Medical Association was held recently in Los Angeles. As a reflection of its awareness of its role of the future, the Association has now changed its name to Aerospace Medical Association.

As early as 1948 some open discussions were held in the field of space medicine at the University of Illinois and at the Air Force School of Aviation Medicine. In 1949, a significant step was taken by the commandant of the Air Force School of Aviation Medicine when he established a department of space medicine. In 1950 the Aeromedical Association proposed the formation of a space medicine branch, which was established the following year.

Less than 20 years ago it was thought that man had reached the tolerance limits in the safe operation of aircraft. Today's jets were then unknown. Bioscientists and engineers combined their efforts to prove the fallacy of this opinion. I am sure they will again disprove the dire predictions some-

times heard now on the dangers of outer space for man.

Clearly, man must carry an envelope of the earth's atmospheric conditions wherever he goes in space. Capsules to accomplish this have been built. And this capsule is not a cellophane bag to be gently wafted through space and deposited again at his journey's end. It will undergo extremes of acceleration and weightlessness in a hostile and potentially fatal environment, plus deceleration, reentry and impact on landing.

This envelope or capsule is technically described as a "self-regenerating closed ecologic system." It must furnish oxygen in the amount needed from a self-contained, automatic supply. It must have carbon dioxide and water vapor absorbers. It must have methods for accurately monitoring the oxygen and carbon dioxide tensions in the capsule, as well as pressure, temperature and humidity.

Before man can venture a journey in his space capsule with comparative safety, a "pre-explorer" must first prove that the feat is feasible. Since weight will demand high priority in initial space flights, the logical choice for an early passenger is a small primate. The Army used monkeys in V-2 and Aerobee rocket flights soon after World War II, and obtained very satisfactory data from experiments conducted at that time.

Numerous additional experiments have been conducted since then, with elaborate instrumentation to secure data on performance under controlled laboratory conditions.

Besides the amount of oxygen, carbon dioxide, pressure, humidity and temperature of the capsule, bioscientists are interested in instrumented data on the passenger himself, which include:

- Body temperature,
- Respiration rate,
- Heart sounds and pulse velocity, and
- Muscular measurements.

Electrocardiographs show recordings of the electrical signals which aid in diagnosing a variety of heart difficulties, determining the general physiological condition of the subject, and inferring psychological condition to some extent.

Measurement of muscles can reveal whether the subject is performing some physical task normally or with difficulty. Data would also show characteristic patterns when the muscles are tensed, as in anxiety or fear.

One of the major questions regarding manned orbital vehicles and space ships, aside from the question of survival, is whether man can perform a useful service in a space ship, or will he be merely a passive passenger? To answer this



question, the first astronaut may be assigned some well-learned routine task to perform, and his reactions observed through telemetered data. In a limited way this can be done with animals in the early experiments. By this means, and with other data available, one can determine the degree to which the passenger can react in his strange new environment.

During a missile flight the period of acceleration from launching will last for only a few minutes. After orbital velocity has been achieved, at a speed which counteracts the gravitational pull, the passenger in a satellite vehicle will experience weightlessness for practically the entire voyage—until his descent begins.

This makes the physiological and psychological problems of weightlessness increasingly important. During recent years human and animal performance under the conditions of near-zero gravity has been investigated by simulating the conditions of weightlessness with specifically-designed "swimming pool" test apparatus, and in parabolic flights in aircraft.

Early experiments with aircraft produced a period of weightlessness of about 20 seconds. This was achieved by taking the plane to a high altitude and putting it into a steep dive. The plane was then pulled out of the dive and followed a ballistic trajectory similar to the first bounce of a rubber ball. You have probably had a split-second indication of the sensation experienced by passengers when you drove downhill on a secondary road at considerable speed, and came suddenly upon a slight mound at the bottom, where the road goes up and over a culvert, or when young or old had the same experience on a roller coaster ride.

Experiments with newer and faster planes have produced 40 seconds of weightlessness. These investigations have shown that vision and touch are very important for effective reaction. Orientation in space is established by means of the vestibular system, vision, and the mechanoreceptors. They all react to external forces and inform man about the surrounding environment.

Early experiments indicate that the main problem of weightlessness may be adaptation; that is, the problems of weightlessness appear to diminish if the subject can adapt to the new environment. This assumes that the subject has visual and tactile references. Periods of weightlessness made possible through previous experiments have not been long enough for conclusive data. A little later I will show you how ludicrous the weightless man appears to those of us who have always been earthbound.

The National Aeronautics and Space Adminis-

tration has charge of the nation's manned space flight program. The Army Ballistic Missile Agency is participating in this program during the initial phases, during which the REDSTONE missile will be used to send man 130 miles into space, providing a period of weightlessness of almost five minutes. This will permit more sustained testing of man's reaction to a gravity-free state. Preceding the manned flights there will be missile-capsule qualification flights and animal flights. The Army Ballistic Missile Agency is working with the Surgeons General of the Army and Navy on a project which includes biological experiments using the JUPITER missile. In May and July of 1958 full-scale JUPITER nose cones were flown the full 1500-mile range of the missile, and were successfully recovered. This proved a solution to the aerodynamic problem of reentry into the dense troposphere, as well as the reliability of the JUPITER missile as a vehicle. Late that summer the Surgeon General, Department of the Army, requested space from us to include biological experiments in ballistic missiles. The result was dedication of space not otherwise used in missile development missions to the Army Medical Services for research to establish the early parameters of manned-rocket flight in bioastronautics. Plans were made to use a JUPITER fired in December 1958, for the first biological payload.

The scientists and engineers in the laboratories of ABMA reappraised the nose cone of the JUPITER in terms of a biological vehicle. The factors of internal structure, launch, countdown, and flight were scrutinized in a new light.

Members of the Army and the Navy Medical Services developed the philosophy and broad technical concepts to be applied. They were: a 24-hour life-sustaining, self-contained capsule; telemetry of essential physiological function; recovery of a live animal and further study to validate in-flight data; and choice of animals high in the phylogenetic scale which would fit the other two concepts. Extensive testing by the Research Division, Naval School of Aviation Medicine, determined that a South American squirrel monkey, weighing about 300 grams, satisfied the concepts and limitations imposed.

Six channels of electronic information were developed to assess the biological responses and environmental controls. These were transmitted to telemetry receiving stations during the entire flight and recorded on an inboard tape recorder during reentry. The electronics package contained an ambient pressure transducer and a thermistor for ambient temperature.

An eight-watt resistor coupled with a thermostat regulated the temperature to 60 degrees, plus or minus five degrees Fahrenheit.



Photographic emulsion plates were mounted within the capsule to record the heavy nuclei tracts of cosmic rays.

Provisions were made to record flash temperatures within the capsule by means of heat-sensitive, temperature-indicating cards.

External insulation was added in the form of a half-inch thick glass wool blanket with an aluminum foil backing.

Instrumentation was installed to record the breathing rate, body temperature, and heart rate, as well as vibration of the chest wall.

The animal was placed within a thin metal cylinder upon a molded bed of silicon rubber. The animal support was mounted into a larger cylinder on rubber rings for shock absorption.

Five and one-half hours prior to launching, the functioning capsule was placed aboard the JUPITER nose cone. At liftoff, the squirrel monkey began a unique 15-minute journey to an area approximately 1500 miles distant. During the brief time that he became the first primate passenger aboard a ballistic missile, he ascended to approximately 300 miles altitude. This provided the longest episode of a subgravity state during which biological data have been obtained by research workers of the Free World.

The EKG showed no abnormalities developing in its complexes during acceleration or weightlessness. Short periods of increased respiratory rate were correlated well with increased cardiac rate due to body movement or other recognized stimuli. Under the circumstances of restraint adequate qualitative body temperatures were received and found to vary within an expected range. The ambient temperature of the capsule remained remarkably constant, varying less than three degrees centigrade. Telemetered data were received by stations aboard ship, plane, and on land bases in the Atlantic Missile Range.

The awesome display of reentry was seen from the U. S. Naval craft stationed in the recovery area. Continuous and reassuring data were recorded from this harbinger of rocket travel. The gratifying results proved the soundness of developments in equipment and techniques necessary to insure the survival and well-being of the passenger, as well as the efficacy of telemetered data to monitor physiological and psychological well-being. The prolonged subgravity state appeared to produce few, if any, abnormalities.

There is one hazard to space travel which I have not mentioned which has not been fully investigated. That is the radiation discovered by EXPLORER I in experiments planned by Dr. James A. Van Allen of the University of Iowa. Subsequent EXPLORERS and space probes revealed the

presence of two distinct belts of radiation, the nearer beginning at about 600 miles altitude over the magnetic equator. The magnetic field of the earth strongly influences the influx of corpuscular rays of solar and cosmic origin by channeling them into the polar regions and storing them or deflecting them back into space over the equatorial regions. PIONEER IV telemetered evidence of this radiation at an altitude of 52,000 miles.

The intensity of radiation is measured in roentgens per hour by biologists in determining damage to living tissue. At the present time it is believed that man can safely absorb about six roentgens over a short period of time with no noticeable after-effects. The intensities encountered by PIONEER III measured as much as eight roentgens per hour. It can be seen, then, that an unprotected man should not stay within an area of this intensity even as much as an hour. Thus he could not be a passenger on a satellite orbiting at altitudes where he encountered radiation without protection from a thick absorbent shell to his satellite, which would greatly increase its weight, and require more powerful launching vehicles. However, a man could go through the belt on a fast vehicle with no shielding, and would not be seriously harmed. If he is protected with only a thin layer, he can go through swiftly without fear of contamination. This subject needs further research and study.

To summarize the points I have mentioned, doctors in the biomedical field are faced with an exciting but complex problem in placing man into space flight. There is a critical necessity for intensified medical investigation of the entire range of known and as yet unknown difficulties.

Rocket scientists and engineers are pleading for more medical information. Those in the physical sciences need continuing assistance from those in the life sciences as to just what facts are actually of interest and significance, and what physical phenomena can be related to these facts. Those in the medical profession may be weak in physics, and engineers are woefully ignorant in physiology, but through close cooperation each can make his specialized contributions which, together, will place the first astronaut in deep space and bring him safely home again.

Who will fill the vacuum of need for space surgeons?

Who is better qualified for this new role than those with long backgrounds of medical training and practice? These specialists alone can set the minimum standards for the design engineers, coordinate and evaluate information from biomedical experiments, and make the medical decisions.

I am extremely pleased to note that The Medi-



cal Association of the State of Alabama is keenly aware of this problem, and has done something about it. Only last week the Association created a Committee on Space Medicine; and Dr. William R. Carter, president, has named Dr. Burton S. Shook of the Medical Division of Redstone Arsenal as first chairman of that committee.

This is a commendable step in the right direc-

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**Mental Health "Contagion" May Help World Peace—**Physicians may some day be able to prevent family and community turmoil, to strike at greed and prejudice, and even perhaps help lay the foundation for world peace.

They may be able to do this because mental disease and mental health are just as "infectious" as a smile or the measles, according to an editorial in the September 12 Journal of the American Medical Association.

Although mental illness is as old as mankind, only recently have many physicians begun to view it as a disease—involving susceptibility and resistance factors—which is amenable to control through a broad program of preventive medicine.

Mental illness is now the only major public health problem that is not adequately reported, the editorial said. It then urged increased study of the cause and spread of mental illness and health and of techniques for preventing illness. Mental illness and health may well be the "epidemiology of the future," the editorial noted.

An accompanying "Medicine at Work" article noted that the seeds of communicability are "implanted in person-to-person contact, fertilized in the family to grow throughout the community, blown and sown from nation to nation. Contact might communicate a fleeting thought or involve the transference of broad patterns of living."

The communicability of mental illness can range from that between a mother and child when the mother scolds and the child becomes anxious to that between nations which "breed dislike," the article said.

But health is also infectious, it said. "A child who is taught not to steal accepts this as a general idea, and it develops into a feeling—not just an understanding—that creates an iron-clad 'prejudice' against stealing."

To understand how all of this works and how the phenomenon of communicability can be used to help man toward better mental health must be the cooperative goal of physicians, psychologists, sociologists, teachers, anthropologists, and clergymen, the Journal editorial concluded.

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**Newest Oral Diabetic Drug Is "Clearly" Useful—**DBI, the newest oral diabetic drug, is clearly of value in the treatment of all types of diabetes, Dr. Julius Pomeranze, New York, said recently.

Dr. Pomeranze, who conducted the first clinical tests of the drug, made his comment in the September 19 Journal of the American Medical Association. He reported the results obtained in 206 diabetics given the drug for periods up to two years.

DBI, or phenethylbiguanide, is one of a group of drugs known as biguanides. It differs in action from other anti-diabetic drugs taken by mouth, which are sulfonylureas.

I am proud that Alabama is leading the way in this exacting new area of medicine, on which future history hinges. I am sure that the work of this committee will be broadened so that Alabama doctors can make optimum contributions to the advancement of knowledge in space medicine. The costs of man's personal exploration of space, in lives and dollars, will be determined by the soundness of his approach to this challenge.

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Dr. Pomeranze said, "The ultimate place of DBI in the management of diabetes will be determined after much more prolonged and widespread observation."

However, when it is used carefully, adjusting the drug to the patient's needs rather than attempting to fit patients into a rigid dosage pattern, it permits the cessation of insulin therapy in a significant percentage of diabetic patients and is useful, together with insulin, for better control of many of the patients with more severe cases.

The study showed that DBI could be used alone or with a reduced amount of insulin in 62 per cent of the patients regardless of the type of diabetes. The use of other oral drugs is limited to mild or stable cases of diabetes, since they are ineffective against juvenile or "brittle" diabetes.

DBI allowed some patients with mild diabetes to stop using insulin altogether and some with more severe cases to cut the amount of insulin used.

Diabetes occurs when the pancreas fails to secrete enough naturally-occurring insulin to burn up all the sugar taken in by the body. Then artificial insulin is necessary. The oral drugs do not replace insulin, but apparently help the body to better use what insulin it has.

Dr. Pomeranze said the sole limitation to the broader use of DBI appears to be its gastrointestinal side-effects. Twenty-six per cent of the patients treated had to stop the drug because of gastrointestinal side-effects. It seems that these are "inherent in the drug when proper individual dose is exceeded," Dr. Pomeranze said, but they may serve as a useful dose regulator and perhaps as a safety device.

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**Fever Needs Food, Water According to Doctors—**A fever must be watered and fed, not starved, according to two Chicago physicians.

Fever leads to dehydration and the breakdown of body tissues. At high temperatures, the body cells work faster and break down more rapidly. To replace them, the body needs food and water.

Drs. Rachmiel Levine and Sidney Cohen of the Medical Research Institute of Michael Reese Hospital gave their advice in an interview reported in the September Today's Health, published by the American Medical Association.

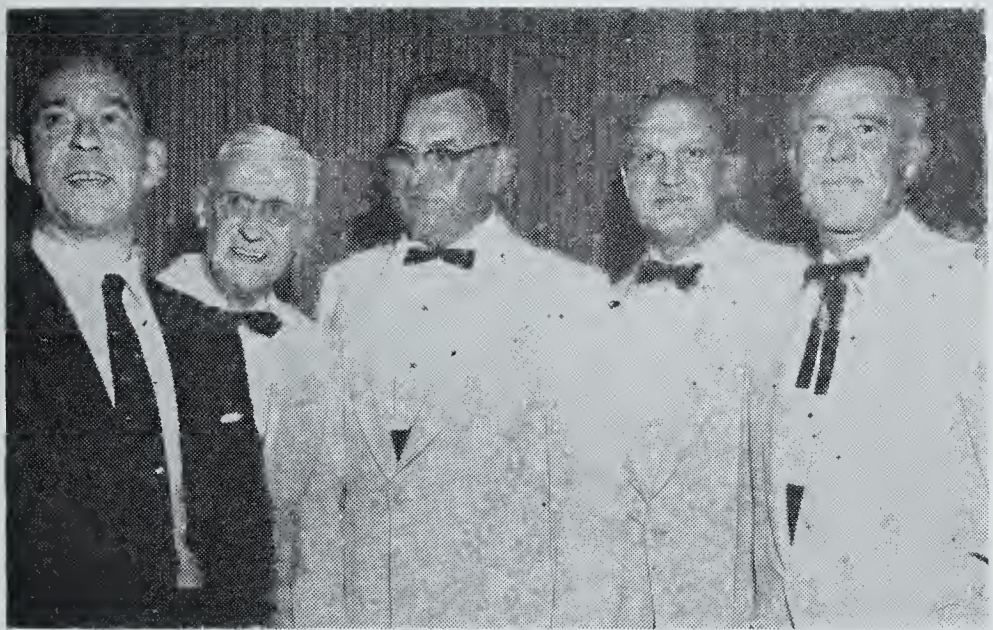
When a fever reaches 103 or more, it becomes dangerous, they said. It leads to the malfunctioning of the central nervous system and heart because every degree of fever makes the heart beat faster, and over a certain beat rate, fever becomes injurious to the heart.

The seriousness of a fever depends on age, persistence, and variability, the doctors said. A child's body temperature will react more drastically with a fever than an older person's. The older a person grows the less drastic and slower are his reactions to fever-causing agents.

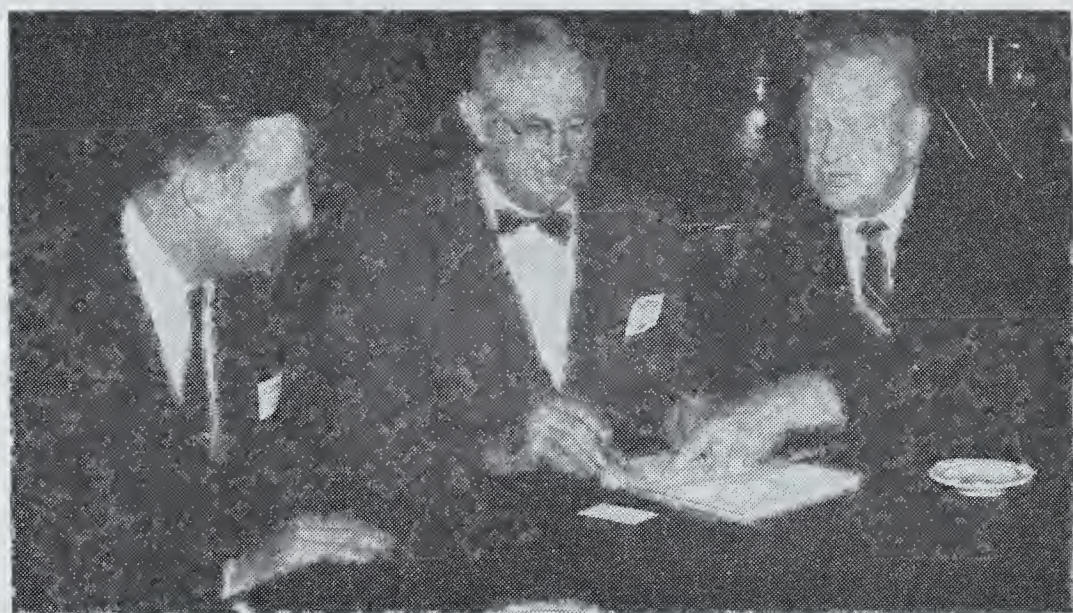




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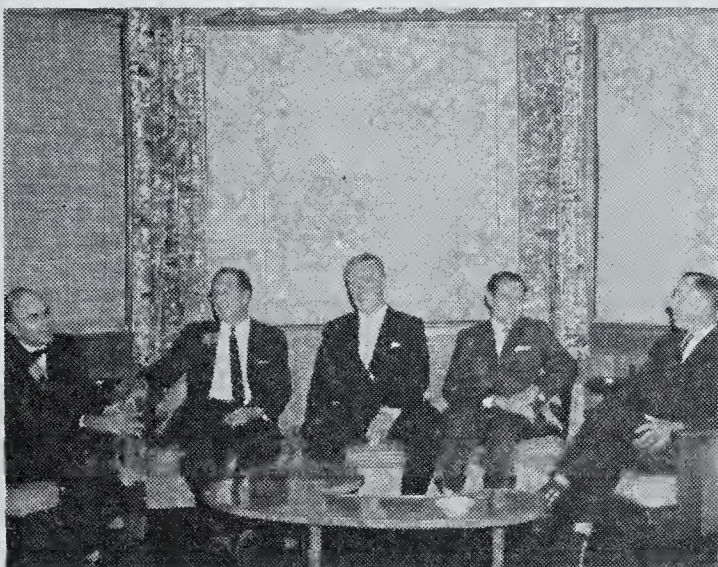


**PLANNING SESSION**—Dr. B. M. Carraway, Treasurer of the Birmingham Academy of Medicine (below center), is shown consulting with Dr. Buford Word (right), General Chairman of this year's Medical Progress Assembly, and Dr. James M. Slaughter, General Chairman for 1960, during the second annual Medical Progress Assembly on September 13-15 in Birmingham.



**RECEIVES NATIONAL HONOR**—Dr. James R. Garber of Birmingham (second from left) was awarded the American Academy of General Practice's first annual Certificate for Meritorious Service Award for his outstanding service to the local Academy at AAGP's 19th semi-annual Postgraduate Seminar in August. Pictured above with Dr. Garber (left to right) are Dr. J. Black, Schering Corporation, Bloomfield, N. J.; AAGP President, Dr. W. J. B. Owings, Brent; Dr. Julius Michaelson, Foley and Dr. James D. Murphy, Fort Worth, Texas.

**SYMPOSIUM SPEAKER**—Dr. Donald A. Covalt, Associate Director of the Institute of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center, will speak on "Practical Rehabilitation Of The Hemiplegic" at the Symposium On Modern Clinical Medicine being sponsored by the AAGP, Medical College of Alabama and Lederle Laboratories at the Tutwiler Hotel on October 11.



**PEDIATRIC TRIO**—The three topnotch authorities in the pediatric field that spoke at the first annual meeting of the Alabama Chapter of the American Academy of Pediatrics at Point Clear on September 11-13, are shown (above left) with State Chairman, Dr. M. Vaun Adams, Mobile (second from left). Left to right are Dr. Victor C. Vaughan, III, Medical College of Georgia; Dr. Amos Christie and Dr. George W. Holcomb, Jr., both of Vanderbilt University, and Robert O. Harris, III, Mobile, program chairman.



**ENJOYING ALABAMA HOSPITALITY**—Among the 120 members, wives and guests who attended the pediatric meeting at the Grand Hotel were (left to right) Dr. Wendell C. Bennett, Columbia, Tenn.; Dr. Sara F. Davis, Birmingham; Dr. Suzanne Schaefer, New Orleans, La.; Dr. Jo N. Robinson, Columbus, Miss.; Dr. Doris J. Phillips, Birmingham and Dr. Alvyn W. White, Pensacola, Fla.



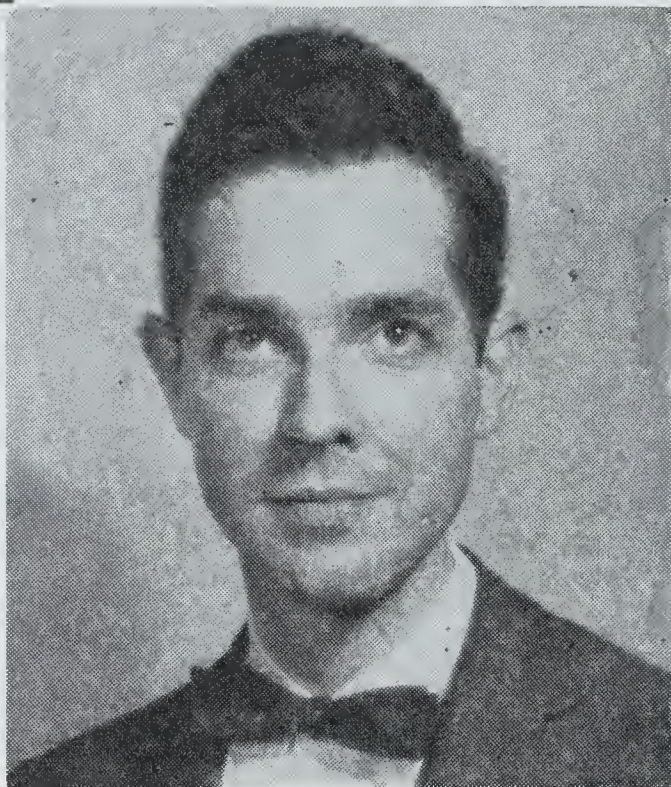




Swenson



Smith



Cobbs



Fenner

**GULF COAST CLINICAL**—The 19th annual meeting of the Gulf Coast Clinical Society will be held at the Admiral Semmes Hotel, Mobile, on October 22-23. Pictured here are some of the key speakers: Drs. Orvar Swenson, Professor of Pediatric Surgery, Tufts Medical College; Lucian A. Smith, Chief of Clinical Section and Professor of Medicine, Mayo Clinic; B. W. Cobbs, Cardiology Department, Emory University; Darwin S. Fenner, Vice President, Merrill Lynch, Pierce, Fenner & Smith; Charles H. Hendricks, Associate Professor of Obstetrics and Gynecology, Western Reserve University, and John L. Shapiro, Professor and Head of the Department of Pathology, Vanderbilt University.



Hendricks

Shapiro





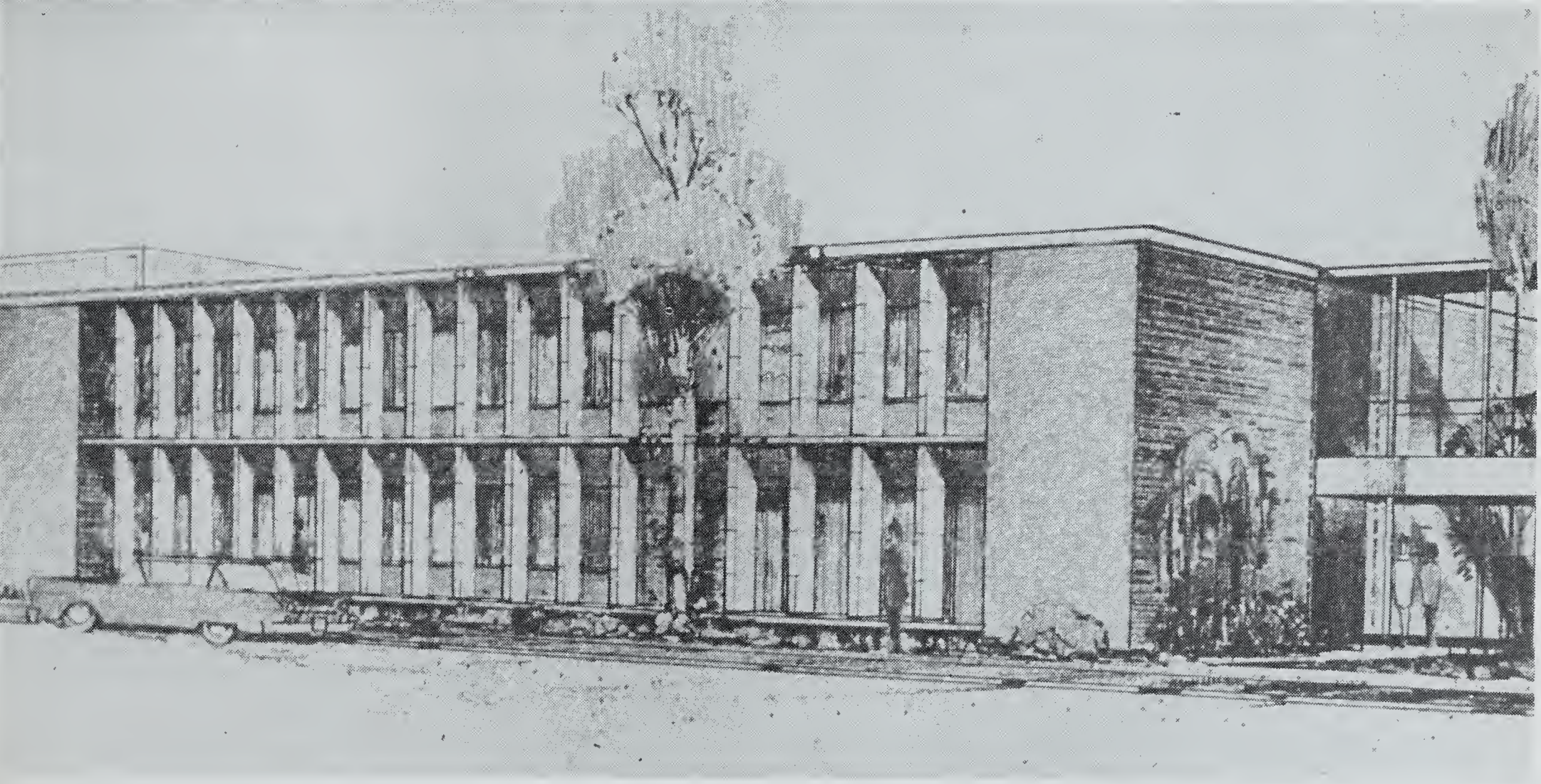
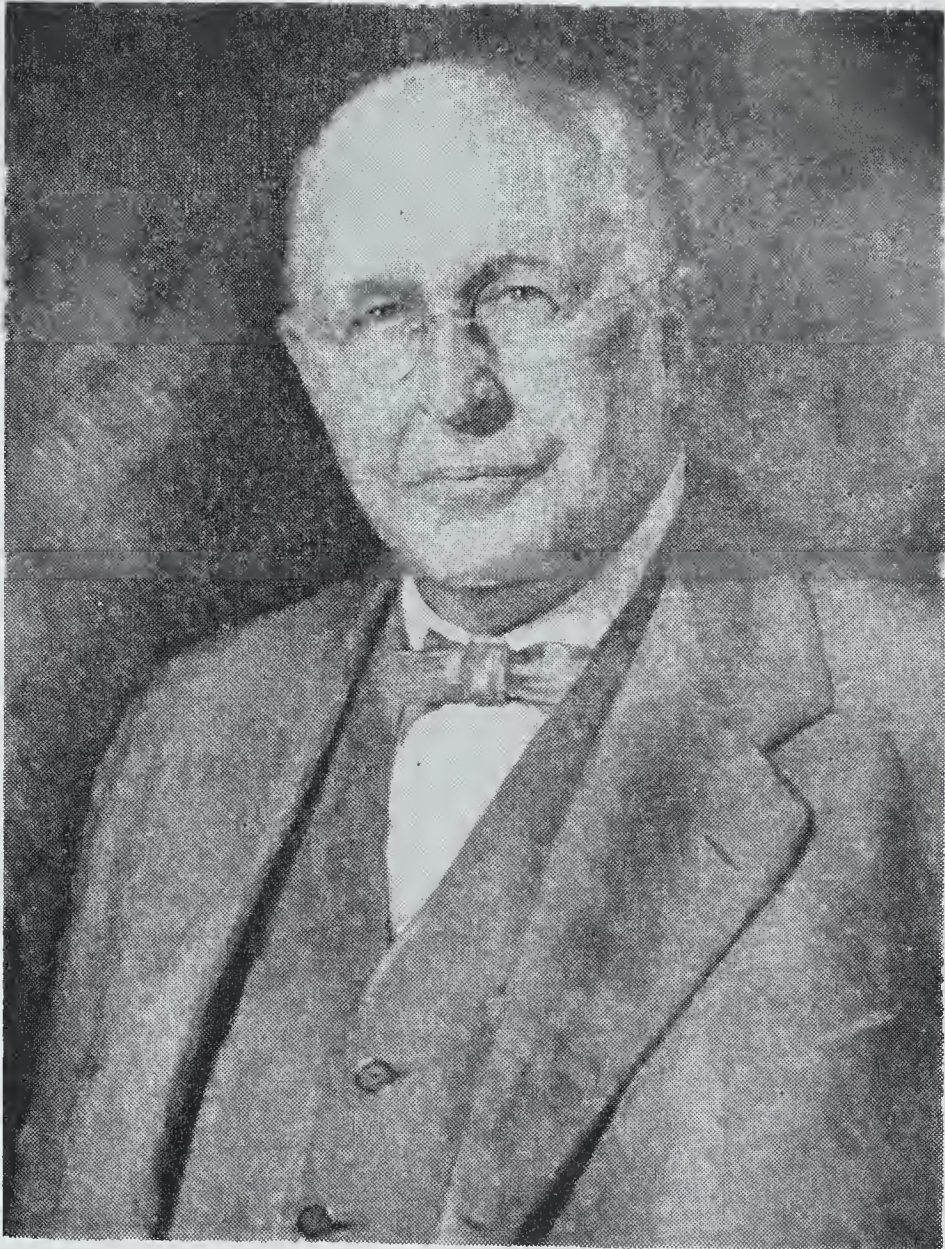


# MEDICAL CENTER NEWS

## DR. LUTHER LEONIDAS HILL

**DEDICATION**—The Medical College of Alabama's cardiovascular surgical unit, one of the leading heart surgery centers in the country, was dedicated to the late Dr. Luther Leonidas Hill, right, pioneer in cardiovascular surgery, on September 18. Dr. Hill made his great contribution to cardiovascular surgery in 1902 when he sutured the knife-pierced heart of a 13-year-old boy, the first time in America such an operation had been performed successfully.

**AT GROUNDBREAKING**—Mr. Joseph Smolian, center-left, shovels the earth at the groundbreaking ceremonies for the new \$300,000 psychiatric clinic building (below) to be erected on the corner of Seventh and Seventeenth Avenues. Pictured with Mr. Smolian, whose gift made this building possible, are, left to right, Dr. James N. Sussex, Mrs. Smolian, Dr. Robert C. Eerson, and Matthew F. McNulty, Jr.





HEART CENTER TO BE  
DEDICATED TO DR. HILL

Dedication of the University of Alabama Medical Center's cardiovascular surgical unit to the memory of the late Dr. Luther Leonidas Hill, Montgomery, is scheduled for Sunday, October 18.

Ceremonies that day will be held in the operating unit, to be known thereafter as the Luther Leonidas Hill Heart Center. Among those participating will be Senator Lister Hill, son of Dr. Hill and senior United States senator from Alabama.

A pioneer in cardiovascular surgery, Dr. Hill was the first physician in America to report a successful suture of the human heart. The operation was performed on a thirteen year old boy, who had received a stab wound that penetrated the left ventricular cavity, upon a kitchen table by the light of oil lamps.

Dr. Hill performed this operation in 1902 after several years of studying wounds of the heart. He had published a paper on heart wounds with reports of seventeen cases of heart suture two years before he performed the first successful operation of this type.

The physician and his wife, the late Mrs. Lillie Lyons Hill, were the parents of four living children. Senator Hill, Mrs. Edmund W. Rucker, Jr., Birmingham, Mrs. Carney Laslie, Montgomery, and Gen. Luther Lyons Hill of Des Moines, Iowa.

Son of a Methodist minister, Dr. Hill was born near Montgomery in 1862. After receiving M. D. degrees from two schools—the University of the City of New York and Jefferson Medical College of Philadelphia, he spent a year at Wyeth's New York Polyclinic Medical School specializing in treatment of the eye, ear, nose, and throat. He then went to Liverpool, England, where he studied surgery with Sir Joseph Lister.

Dr. Hill began a surgical practice in Montgomery in 1884. For more than thirty-five years of the forty-eight years he was in practice, he was associated with his brother, Dr. Robert S. Hill. Dr. L. L. Hill died in 1946.

A leader in professional organizations as well as a noted medical writer, Dr. Hill received many honors during his lifetime. Among these was an honorary doctor of laws degree, conferred by the University of Alabama in 1910. A member of county, state, and national medical groups, Dr. Hill was elected president of the State Medical Association in 1897.

The Medical Center's cardiovascular unit, one of the leading heart surgery centers in the country, is located on the seventh floor of the Hillman Building. It is a function of University Hospital and Hillman Clinic.

JAMES GARBER RECEIVES  
AAGP NATIONAL AWARD

Dr. James R. Garber won national recognition recently for service to the medical profession.

The veteran physician became the first Alabamian to receive the annual meritorious service award of the American Academy of General Practice. The award was presented during the semi-annual postgraduate seminar held by the Alabama Academy of General Practice in August.

The state group nominated Dr. Garber for the award, which was established by the American Academy last year. Dr. W. J. B. Owings of Brent, president of the Alabama Academy, said Dr. Garber organized the first seminar for general practitioners here in 1948 and that he has served as program coordinator through nineteen later ones. Dr. Garber was credited with helping to build the Alabama Academy from its original eighty members to its present membership of three hundred.

Dr. Garber is past president of the Jefferson County Medical Society and of The Medical Association of the State of Alabama.

He joined the Medical College faculty in 1945 and served as chairman of the obstetrics department until his retirement in 1956. Since then he has continued as professor of clinical obstetrics.

DR. RUTH BERREY REJOINS  
MEDICAL CENTER'S STAFF

Birmingham and the Medical Center recently welcomed back Dr. Ruth R. Berrey who spent the past year at a Baptist Mission hospital in Ogbomosho, Nigeria, Africa.

Dr. Berrey is now back at her pediatrics practice and her place as associate professor of pediatrics here at the Center.

The West African country, a British possession, is very progressive in the teaching of medicine, although disease is still widespread and there is only one doctor per 200,000 people, according to Dr. Berrey. Nigeria's three-year-old medical school at Ibadan is up-to-date in every way, with a modern, 500-bed general hospital and a new mental hospital among its training units, she said. About two-thirds of the staff are British; the other one-third, Nigerians who were trained in England and the United States.

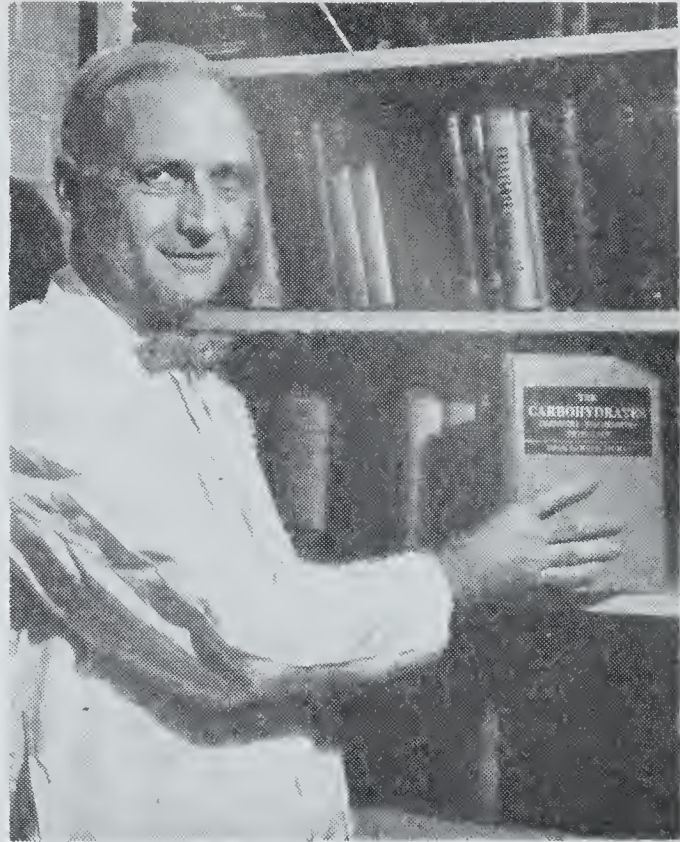
Much of the research carried on at the college is in the pharmacology of native medicines. In some cases researchers are interested in what ingredients may be useful. In others they are looking for ways to counteract the harmful effects of these drugs.

Malaria, tuberculosis, yellow fever, smallpox,





**CLASS OF '49**—Fourteen members of the Class of '49, the first class to take all four years of medical training at the Medical College of Alabama, held a ten-year reunion at the Medical Center recently. Pictured above are some of the class members and their wives that attended the reunion. They are, left to right, first row, Mrs. Donald Mosher, Eau Gallie, Fla.; Dr. Myra Peters, Tulsa, Okla.; Mrs. Louise R. Cason, Birmingham; Dr. George Douglas, Birmingham. Second row, Dr. Donald Mosher; Mrs. Marvin Powell, Shawmut; Miss Virginia Baxley, Birmingham. Third row, Dr. James Graham, Philadelphia; Dr. Robert S. Teague, Birmingham; Dr. Marvin Powell; Dr. Charles H. Winkler, Birmingham; Mrs. Ira L. Myers, Montgomery; Dr. Ira L. Myers; and Dr. Emmett B. Carmichael, Birmingham. Other class members attending were Drs. Tom Caldwell, Charles Carraway, Inez Fowler, Hugh Haden, Robert O. Lauderdale, and Jacob Neighbors, all of Birmingham; and Drs. Irene Johnson Roan and Albert Stephens, Jr., Tuscaloosa.



**HIS BOOK CHOSEN**—Dr. Ward Pigman's book, *The Carbohydrates*, was displayed at the American National Exhibit in Moscow this summer.

**GIFT MEMENTOES**—These hand-carved replicas of Nigerian women at work bring to Dr. Ruth E. Berrey happy recollections of a year spent in that West African country. She was stationed at the Baptist mission hospital at Ogbomosh.



**GOING UP IN CENTER**—This evacuation hospital for the Armory Commission will soon be under construction on the southwest corner of Eighth Avenue and Nineteenth Street. Built on University property, it will be available for Medical Center use except when being used for National Guard training.



and leprosy are serious problems in Nigeria, Dr. Berrey found. They are particularly hard to combat because of nutritional deficiencies among the natives. Lack of protein in the diet is the biggest trouble. A form of sleeping sickness which attacks cows makes it impossible for Nigerians to have beef or cow's milk. Goats are plentiful in the area, but the natives often won't eat them because of superstition, which also prevents their eating eggs. Beans must serve as the chief source of protein in their diet.

Leprosy, although still a big factor, with some 165,000 cases among the eighteen million population of northern Nigeria, is not the problem it once was. Drugs can now arrest a case of leprosy in about three years, and it is hoped that new medications will be able to control the disease in only six months.

Nigeria is gradually doing away with its isolation villages for lepers and treating many of those who have leprosy on an outpatient basis.

Dr. Berrey, who is an alumna of the University of Alabama Medical College and of Tulane University School of Medicine, joined the staff here in 1945. Her husband, the late Dr. Ivan C. Berrey, served on the faculty in the department of medicine.

#### DR. DAN C. DONALD DIES

The Medical Center was greatly saddened by the recent death of Dr. Dan C. Donald, a member of the staff for fourteen years and professor of clinical surgery since 1950. He was seventy-one.

Dr. Donald had practiced in Birmingham for nearly half a century, starting soon after his graduation from Tulane University School of Medicine in 1911. He was especially noted for his work in repair of hernia and varicose veins.

An active counsellor of The Medical Association of the State of Alabama, Dr. Donald also belonged to the American and Southern Medical Associations, and was a past president of the Jefferson County Medical Society and the Alabama Society of Medical History. He was a fellow of the American College of Surgeons.

Survivors are his wife; a son, Robert G. Donald; two daughters, Mrs. R. C. Shannonhouse of Atlanta and Mrs. H. Colford Schahck of New Canaan, Conn.; and a brother, Charles J. Donald of Fairfield. Dr. Donald was an uncle of Dr. Charles J. Donald, Jr., and Dr. Joseph M. Donald of the Medical Center Staff.

#### DENTAL RESEARCH MEETING FEATURED EUROPEAN SPEAKERS

The Alabama Section of the International Asso-

ciation for Dental Research held its first annual meeting on September 25-27 at the Ann Jordan Farm near Alexander City.

Alabama dentists heard Dr. O. Backer-Dirks of the University of Utrecht, Netherlands, lecture on the relationship of fluorides to dental caries at the opening session Saturday morning. Other speakers at the scientific session were Dr. Leon Schneyer, "Amylase and Electrolyte Changes in Salivary Glands During Activity," and Dr. C. E. Klapper, "Experimental Animal Caries."

Following a business meeting Saturday evening, Dr. Bengt Gustafsson of the University of Lund, Sweden, discussed germ-free animal studies.

Speakers at the concluding session Sunday morning were Dr. F. S. Mehta, Secretary of the All-Indian Dental Association, "Clinical Periodontal Research," Dr. Gilbert J. Parfitt, "Significance of Tooth Mobility," Dr. E. Newbrun, "Hardness and Solubility of Enamel," and Dr. T. Koulourides, "Rehardening of Artificially Softened Enamel."

#### New Tooth Decay Preventive Technique Suggested—

A slight change in table etiquette might be one way to fight tooth decay, a California dentist has suggested.

Tooth decay is not a steady, degenerative process but rather a series of short "commando raids" lasting only 20 to 30 minutes and is generated by the fermentable sugars in food being eaten, according to Walter Drozdiak, D.D.S., San Jose.

If brushing or rinsing the teeth is delayed longer than 30 minutes after eating, little or no preventive effect will occur and "one might just as well forget about it altogether, which is what most of us do," he said.

Therefore, Dr. Drozdiak suggests that the mouth be rinsed right at the table. The idea is to wash away as much as possible the elements that cause decay—the acids and sugars—before the process of decay can begin.

Taking a sip of water after the meal—or even at times during the meal—and swishing it around in the mouth for a few seconds before swallowing need not attract attention and can be done without inconvenience, he said.

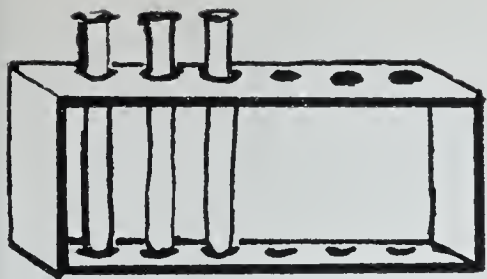
Writing in the September Today's Health, an American Medical Association publication, Dr. Drozdiak noted that forming such a habit may take some effort, but it is well worth it. The teeth are the only part of the body which cannot heal or repair themselves after damage has been done.

In addition, decay does not ever start from within. It always begins on the outside of the teeth and arises from decay-causing conditions surrounding the teeth.

Teeth should be brushed after every meal and the brushing should be more than just remove loose debris and stains from the teeth. It should ideally remove from the teeth all adhering deposits of bacteria and tartar, and it should dislodge foreign matter trapped between the teeth and gums.

Dr. Drozdiak recommends that teeth—like pots and pans—should be checked after cleaning to see that they are really clean.





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.

State Health Officer

## VECTOR PROBLEMS—PAST AND PRESENT

Contributed by

W. H. Kittrell, Director

Division of Vector Control

Bureau of Sanitation

The term "vector" has been defined in various ways from time to time. In a medical sense it was at one time held to mean those arthropods or other animals which had an obligatory role in the transmission of a pathogenic organism to man; and at times may have been used to refer only to those organisms in which it was necessary for the pathogen to go through a developmental phase. The classic example of this type of vector activity is the role of *Anopheles* mosquitoes in developing and transmitting the malaria parasite.

The term "vector" as used by public health workers has gradually evolved to include animals and arthropods which are capable of transmitting human diseases in any manner whatever; for instance, the housefly in mechanically carrying the germs of typhoid and other enteric diseases from human excreta to human food. In recent years vector control programs have concerned themselves with still broader fields, this change being closely correlated with our broadened concepts of public health. Good public health is no longer considered to be merely a matter of preventing bodily diseases, but is now generally regarded as a positive state of well-being in the community; hence, an insect which is merely a source of worry and annoyance, but probably incapable of carrying disease, is now frequently considered a logical target of vector control programs.

A good example of our changed thinking may be found in the modern attitude toward mosquitoes. For many years malaria was among the most important and acute health problems in Alabama and it was natural and logical that, with limited public health forces, the *Anopheles quadrimaculatus* should be the sole target of public health mosquito control activities. For many years this was practically true. Brief surveys would be made on the request of municipalities for the sources of other "pest" mosquitoes and advice would be given as to their control. The sources and indicated control methods would usually be fairly obvious and

a minimum of effort was expended by health department personnel in this type of activity. On the other hand, efforts were extended to the utmost in promoting and directing programs against the *A. quadrimaculatus*. Following World War II, malaria in this country was decreasing, DDT had become available, and many prominent malariologists thought that an intensive DDT house spraying program in traditionally malarious areas would result in the complete eradication of the disease in this country. Through these efforts and because of various uncontrolled forces which were at work, their hope has been practically realized. It is believed that there is no more natural malaria transmission in Alabama, even though the distribution of the vector mosquito is probably as widespread and its total population as great as in former years. We are now in the fortunate position of having, as far as we know, no actual transmission of any mosquito-borne diseases. It will be recalled that many years ago deadly epidemics of yellow fever occurred in the State, and in later years some transmission of dengue fever occurred, both being transmitted by the *Aedes aegypti* mosquito. Some new interest was aroused in regard to yellow fever and its vector following World War II because there was a definite northward movement of this disease through the Central American countries and into southern Mexico. After the complex factors involved in this movement were fully determined there did not seem to be much cause for alarm in this country, however.

Even in the absence of active mosquito-borne diseases there have been several developments which make it desirable for sanitarians and other public health workers to know more about our entire group of mosquitoes, their habits, and their control. One development which has been mentioned is the strengthened concept that we are justified in making efforts against any biting, severely annoying pests. A second development has been the new knowledge gathered relative to potential mosquito-borne diseases other than malaria, especially virus encephalitis. It is now known definitely that these diseases (there are three recognized strains in the United States) are definitely mosquito-borne and that a number of different species of mosquitoes are capable of transmitting one or more of these strains. It is also definitely known that the reservoir of these diseases is primarily in birds of a number of species,



that both horses and humans are susceptible under certain conditions, that horse outbreaks have occurred in Alabama in recent years, and that one or more of the viruses have been found in birds and mosquitoes in Alabama. These facts seem to justify amply the assertion that we need to know more about our mosquitoes in general and the control of the various species.

During a number of years in the past, murine typhus was Alabama's second most important vector borne disease. According to strict vector concepts the rat is the primary host or reservoir of this disease and the oriental rat flea is the vector, transmitting the disease both from rat to rat and, less frequently, from rat to man. This disease was combatted vigorously for a number of years following World War II and apparently responded well to control efforts. Sporadic cases still occur in the State, and it would seem that there is still danger of major outbreaks in the future. Some organized control programs are still at work in the State. These programs involve measures directed toward reduction in rat population and reduction in flea population. The continuance of these programs in the virtual absence of the disease is due mainly to the economic benefits of controlling rats and to the alleviation of nuisances caused by fleas.

An accurate quantitative evaluation of the role of the housefly in the transmission of diseases has not been possible in the past nor is it possible at present. Diarrhea and dysentery to which young children are especially subject are thought to be transmitted frequently by the mechanical transportation of pathogenic organisms from excreta to food, drink, lips, etc. During the early history of public health in Alabama up until the present time the safe sanitary disposal of excreta has been perhaps the number one target of sanitation activities. The present day standards in this phase of sanitation are incomparably better than those existing here a generation ago and it would seem that the opportunity for flies to transport germs would be much less under present conditions. In some situations, however, this opportunity has not been reduced to zero. Moreover the general public, being much more sanitation conscious than in former years, has no desire to tolerate a large population of houseflies.

In many rural areas the presence of flies has always been taken as a matter of course, and it is obvious that complete prevention of fly breeding on farm premises where many kinds of livestock are kept would be extremely difficult. Some new practices have arisen recently which aggravate the problems tremendously. These new sources of fly production are related to the concentrated raising of livestock, especially hogs and poultry.

There is a need for an intensive cooperative effort between public health workers and livestock specialists to devise structures and means of handling manures which will limit the production of flies from these new sources to reasonable levels.

In many of our cities, both large and small, the greatest source of houseflies is probably garbage at various points along its chain of storage, collection and disposal. This may not be true in every instance. In many cities, especially the smaller ones, insufficient control is exercised over the keeping of various kinds of livestock, the sanitation of their quarters and the storage of feed. Livestock manure in such situations is a major source of flies. Certain industrial wastes, if improperly stored and disposed of, may also constitute important fly breeding sources. Examples are waste from slaughter houses, poultry plants, certain types of milling operations, etc. These same conditions if not properly controlled are likely to provide abundant food and harborage for rats, as well as producing flies.

Public health workers believe that basic sanitary measures are necessary to eliminate fly breeding. In our cities these measures include high sanitary standards of refuse storage at its sources, efficient and frequent collection of refuse, the practice of a sanitary method of refuse disposal, the prohibition of keeping certain types of livestock within municipal boundaries, the close regulation of livestock manure disposal, and the close regulation or prohibition of industrial processes and wastes which will produce flies. These same measures will also go far toward controlling rats within municipalities. Additional measures against rats should include the rat proofing or replacement of structures in which foods and feed stuffs are stored.

There are many miscellaneous problems which demand the attention of vector control specialists. Some of these are active day-to-day problems such as control of roaches and other household vermin. Others are related to potential disease threats which might become active problems at any time, such as tick-borne diseases, especially Rocky Mountain spotted fever. This disease has occurred in the State although Alabama has been fortunate with reference to plague and several other diseases which have in the past been troublesome in other parts of the United States. The possibility that we may not remain as fortunate requires that we keep reasonably well informed about all vector-borne diseases and their carriers.

NEXT ANNUAL SESSION

MOBILE

APRIL 21, 22, 23, 1960



BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

July 1959

Examinations for malaria.....	56
Examinations for diphtheria bacilli and Vincent's	45
Agglutination tests.....	607
Typhoid cultures (blood, feces and urine).....	714
Brucella cultures.....	7
Examinations for intestinal parasites.....	3,817
Darkfield examinations.....	2
Serologic tests for syphilis (blood and spinal fluid).....	26,502
Examinations for gonococci.....	1,769
Examinations for tubercle bacilli.....	3,585
Examinations for Negri bodies (smears and animal inoculations).....	399
Water examinations.....	2,942
Milk and dairy products examinations.....	4,848
Miscellaneous examinations.....	1,186
Total	46,479

This includes 1,628 specimens examined in the Dothan Branch Laboratory during the month of June but the report was not received in time to be included in the June report.

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BUREAU OF PREVENTABLE DISEASES

W. H. Y. SMITH, M. D., Director

CURRENT MORBIDITY STATISTICS

1959

	June	July	E. E.* July
Typhoid and paratyphoid.....	3	1	5
Undulant fever.....	1	0	1
Meningitis.....	6	0	9
Scarlet fever.....	29	23	19
Whooping cough.....	82	52	48
Diphtheria.....	0	0	3
Tetanus.....	5	3	4
Tuberculosis.....	210	170	191
Tularemia.....	0	0	0
Amebic dysentery.....	1	5	1
Malaria.....	0	0	2
Influenza.....	10	8	35
Smallpox.....	0	0	0
Measles.....	354	92	172
Poliomyelitis.....	11	57	62
Encephalitis.....	1	3	1
Chickenpox.....	72	43	16
Typhus fever.....	0	0	2
Mumps.....	8	15	60
Cancer.....	505	475	443
Pellagra.....	0	1	0
Pneumonia.....	124	114	85
Syphilis.....	154	143	169
Chancroid.....	3	1	5
Gonorrhea.....	302	323	345
Rabies—Human cases.....	1	0	0
Positive animal heads.....	24	18	0

As reported by physicians and including deaths not reported as cases.  
\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS AND COMPARATIVE DATA, MAY 1959

Live Births, Deaths and Deaths by Cause	Number Registered During May 1959			Rates* (Annual Basis)		
	Total	White	Non-White	1959	1958	1957
Live births.....	6022	3783	2239	22.0	21.8	22.8
Deaths.....	2273	1401	872	8.3	8.3	8.4
Fetal deaths.....	123	61	62	20.0	23.9	20.3
Infant deaths—						
Under one month.....	143	75	68	23.7	26.9	24.0
Under one year.....	193	96	97	32.0	38.1	33.9
Maternal deaths.....	5	3	2	8.1	3.3	11.2
Causes of Death						
Tuberculosis, 001-019.....	15	6	9	5.5	11.4	9.7
Syphilis, 020-029.....	11	5	6	4.0	3.0	1.9
Dysentery, 045-048.....	2	1	1	0.7		
Diphtheria, 055.....						
Whooping cough, 056.....	2	1	1	0.7		
Meningococcal infections, 057.....	1	1		0.4		1.1
Poliomyelitis, 080, 081.....					0.4	0.4
Measles, 085.....	2	1	1	0.7	1.5	1.5
Malignant neoplasms, 140-205.....	316	219	97	115.4	99.2	103.6
Diabetes mellitus, 260.....	22	13	9	8.0	11.8	10.8
Pellagra, 281.....	1	1		0.4		0.7
Vascular lesions of central nervous system, 330-334.....	318	181	137	116.1	126.1	115.5
Rheumatic fever, 400-402.....						
Diseases of the heart, 410-443.....	743	497	246	271.3	272.6	279.8
Hypertension with heart disease, 440-443.....	135	54	81	49.3	51.6	56.6
Disease of the arteries, 450-456.....	54	35	19	19.7	14.8	20.5
Influenza, 480-483.....	6	6		2.2	5.2	4.8
Pneumonia, all forms, 490-493.....	53	32	21	19.4	19.5	22.7
Bronchitis, 550-553.....	6	4	2	2.2	0.7	1.5
Appendicitis, 550-553.....	3	1	2	1.1	1.5	0.7
Intestinal obstruction and hernia, 560, 561, 570.....	11	7	4	4.0	3.3	4.1
Gastro-enteritis and colitis, under 2, 571.0, 764.....	6		6	2.2	1.8	3.0
Cirrhosis of liver, 581.....	17	13	4	6.2	5.9	4.5
Diseases of pregnancy and childbirth, 640-689.....	5	3	2	8.1	3.3	11.2
Congenital malformations, 750-759.....	23	17	6	3.8	4.6	6.4
Immaturity at birth, 774-776.....	55	25	30	9.1	8.6	8.6
Accidents, total, 800-962.....	194	120	74	70.8	57.2	61.5
Motor vehicle accidents, 810-835, 960.....	98	67	31	35.8	28.8	26.5
All other defined causes.....	331	182	149	120.8	128.0	124.8
Ill-defined and unknown causes, 780-793, 795.....	76	30	46	27.7	35.8	27.6

Rates: Birth and death—per 1,000 population; Infant deaths—per 1,000 live births; Fetal deaths—per 1,000 deliveries; Maternal deaths—per 10,000 deliveries; Deaths from specified causes—per 100,000 population.

**Dogs Catch Mumps from Children**—When Johnny has the mumps, Fido better stay away. He may catch it, too.

Two cases of mumps in dogs were reported in the September Journal of Diseases of Children, an American Medical Association publication.

The transmission of mumps in animals other than man or monkeys has previously been considered to be rather improbable and little has been reported on its appearance in other animals, the report said.

The dogs, pets of two different families, were a six-month-old dachshund and a three-month-old Boston terrier. They developed mumps after being in contact with family members who had the disease. The dogs were allowed upon the beds of the patients during their illness and convalescence.

The dachshund died a few days after he became sick, but the terrier recovered within 14 days.

Standard laboratory tests revealed the presence of the mumps virus in the saliva of both dogs, who displayed the usual symptoms of mumps—swollen parotid glands and difficulty in swallowing.



## AMERICAN MEDICAL ASSOCIATION NEWS

RARE CASES OF HALLUCINATIONS  
REPORTED IN A.M.A. ARCHIVES

When one person has a hallucination, it is interesting, but not unusual. When three persons—members of the same family—have similar ones, it is rare and medicine takes notice.

The cases of two families, each with three members who had similar hallucinations, are reported by Dr. N. Lukianowicz, Barrow Hospital, Bristol, England, in the September Archives of General Psychiatry, published by the American Medical Association.

Family A. consisted of a brother and two sisters. The brother and one sister lived together, while their married sister lived down the street. Their mother died at age 72 after long suffering from an inoperable cancer and senile dementia.

Shortly after the mother's death, all three children began "seeing" their mother just before they fell asleep. The brother said, "Since my mother died, her apparition comes usually twice a week through the closed door of my bedroom and stops at the foot of my bed. She stands there for a while and stares at me." A sister said, "She would come in, right through the panels in the door, and then would stop at my bed and gaze."

They also reported "hearing" their mother call them by name during the day.

Their hallucinations continued until the brother entered a hospital for surgery.

Family B. consisted of a father, mother and daughter. They too experienced similar hallucinations, although they also had individual ones. Father and mother were once awakened by a knocking at their bedroom door when no one was there. The mother told of waking and "seeing" her husband sitting at the foot of the bed with his head in his hands. She asked if he were ill and then realized that he wasn't there at all, but was sleeping beside her. The daughter had daytime auditory hallucinations.

The father suffered recurrent hallucinations during the daytime. He "felt" someone's hand resting on his shoulder. He explained, "I knew at once who it was. It was my father, for he always liked to put his hand on my shoulder when talking earnestly to me. I turned around, but there was no one there."

After the second such experience, he and his wife decided it was "a delayed shock" after his father's sudden death and that he must be "imagining things."

The hallucinations ended after Mr. B. underwent psychotherapy.

Dr. Lukianowicz explained that most of these experiences were connected with sleep—either occurring just before going to sleep or just after awakening. However, those that occurred during the day were probably "ordinary" or "genuine" hallucinations, similar to those occurring in psychotic states or during infections and illnesses.

In both families, the central theme of the phenomena was the figure of a deceased parent, for whose death their respective children held themselves responsible. It is assumed, Dr. Lukianowicz said, that these experiences were precipitated by fear and an anxious expectation of punishment.

Mr. B. hated his father, the doctor said, and entertained death wishes against him. When the old man suddenly died, Mr. B. held himself responsible and expected punishment, probably from the hand of his deceased father. The hallucinated "hand" resting on his shoulder may symbolize the warning of the approaching revenge or it may be a sort of conditioned reflex, since the father had rested his hand on Mr. B.'s shoulder when disciplining him.

Family A.'s strikingly similar and uniform hallucinations are not surprising, since, being siblings, they represent a more homogeneous group than Family B., Dr. Lukianowicz said.

The causative factors of the A.'s hallucinations may be similar to those of Mr. B.'s. Old Mrs. A., apart from being physically very sick, was also suffering from a mental illness, and must have been extremely trying at times. Hence her children could not help developing some death wishes, which might even have had a certain "moral justification," the author said. She was obviously suffering and they only wished that the death might bring "a deliverance" to her from her misery. Nevertheless, when she died, they all felt guilty and responsible.

Thus the image of their dead mother became the kernel of their secret fears and the menacing content of their imagery. The hallucinations occurring before sleep might even be called "real nightmares." Mr. A.'s hallucinations disappeared after his surgery, perhaps because he felt the surgery to be a form of punishment.



# THE JOURNAL

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## PRENATAL CARE—THE PALE, PINK PILL

LAWRENCE L. HESTER, JR., M. D.

Charleston, S. C.

Prenatal (antepartal) care is difficult to define or grasp. Prenatal care concerns itself with the gestational solicitude of the gravida regarding every aspect of daily life from arising each morning to an attentive understanding of her dreams or nightmares. It considers the personal hygiene of the expectant mother, her dietary habits and requirements, the psychology of pregnancy and impending motherhood, and, last, the health of the newborn infant. Adequate prenatal care for a young female in her 20's differs from that of a hypertensive female in her late 30's. Adequate prenatal care for the pregnant diabetic and the patient with rheumatic heart disease of grade 3 or 4 severity will be different, and rightly so, from that of the young, normal, healthy pregnant female.

In speaking of prenatal care, perhaps we should consider preconceptional care. Each day we realize that the teenager of today is the mother of tomorrow. Her breakfast consists of a sweet roll or cookie, with lunch being the familiar coke and crackers, and dinner never being completed because of the impending date, dance, or the ever-present telephone conversation. Thus, her nutritive stores are absent or depleted, and when pregnancy occurs during the years of late adolescence, the body must continue to fulfill the nutritional requirements of its own growth and development and, at the same time, the needs of the fetus must be met, and the maternal body prepared for milk production. Thus, it behooves us to give dietary as well as contraceptive advice to the expectant bride. This is particularly important if she has poor dietary habits and does not have judgment to select the proper foods for herself as well as her husband.

Our aims in prenatal care are to gain the confidence of the mother so that she can have "peace of mind" during her pregnancy, to reduce or prevent complications during pregnancy and the puerperium, to prevent immaturity and prematurity, and to decrease neonatal mortality and morbidity rates so that we give to the mother a child in the best possible health.

Our first aim is accomplished during the various prenatal examinations, but particularly during the first prenatal visit of the patient to our office when we have our "post-examination talk." This talk is to gain the confidence of the patient, particularly the primigravida since she is approaching the vast unknown of labor about which she has heard so much and knows so little. She has been told by her friends, so-called friends, of the terrifically long ordeal that she will have to undergo with her first child, while others have told her that the baby will probably have to be delivered by forceps, and other well wishers have told her that she will have to be cut to have her child. Grantly Dick Read has asked: "Is labor easy because the woman is calm, or is she calm because her labor is easy?" and, conversely, "Is a woman pained and frightened because her labor is difficult, or is her labor difficult because she is pained and frightened?"<sup>1</sup> Thus our first aim in prenatal care is to gain the confidence of the patient so that she will approach labor not with fear but with confidence; not with anxiety but with anticipation of bringing her own child into the world.

After the patient has had her physical examination, including pelvic examination and Papanicolaou smears, she should be seen again to answer any questions that she may have and to be given prenatal instructions. These instructions usually include a booklet on prenatal care and other do's and don'ts that one may add. It is of particular importance at this time to discuss diet with the patient since this is almost synonymous with prenatal care. The adequate basic diet consists of a quart of milk a day, one-quarter pound of lean red meat, and two leafy green vegetables. One or two eggs and whole wheat bread may be added as desired. Large quantities of milk, one quart or more per day, predispose to muscular tetany and leg cramps as a result of the excessive amounts of phosphorus absorbed. Thus, if the patient takes a quart of milk per day and complains of leg cramps, aluminum hydroxide gel may be added to the diet in order to remove some of the dietary phosphorus from the intestinal tract and thus re-

Read before the Association in annual session, Birmingham, April 10, 1959.

1. Read, Grantly Dick: *Childbirth Without Fear*. New York, Harper & Brothers, 1944.



duce or eliminate the muscular tetany. The importance of drinking a quart of milk a day is not for the calcium content, since this can be supplied in prenatal supplements, the pale pink pill, but because of the high protein content of milk. A quart of milk contains more protein than  $\frac{1}{4}$  pound of lean meat, and it is essential that a pregnant female drink a quart of milk, or use its equivalent in cottage cheese, custards, etc., in order that an adequate protein intake be provided. The usual recommendation of 85 grams of protein per day in pregnancy provides only 13.6 grams of nitrogen. From theoretical observation, the diet should contain 110 to 120 grams of protein per day in spite of the fact that pregnant women have been maintained in good health on as little as 45 grams. In pregnancy the rate of utilization of digested protein for protein synthesis is increased and the rate of utilization of protein as a source of energy is decreased.<sup>2</sup> However, in the underweight woman less fat is available, and the diet must provide the energy fuel. Caloric restriction in such patients, particularly when combined with a low protein diet, will sharply limit the nitrogen available for protein synthesis and lean body mass formation. This combination may explain the high incidence of prematurity in the underweight mother.

What is "normal" weight gain during pregnancy? It has always seemed rather ridiculous to restrict the weight gain to 20 to 25 pounds in every obstetrical patient. The obese patient can lose weight during pregnancy whereas the patient who is thin and underweight should be allowed to increase her weight so that following delivery her weight will be more nearly normal. Statistical studies from large groups of pregnant women who have successfully completed gestation without maternal or fetal mortality have shown that the average woman gains 24 pounds during her pregnancy. The conceptional mass, which includes the conceptus, increased size of maternal reproductive organs and the increased blood volume, is approximately 14 pounds and this varies little from one normal patient to another. Thus, the difference between the total weight gain and the conceptional mass is approximately 10 pounds. This 10 pounds is considered to consist largely of extracellular fluid, but is actually of unknown quality and quantity. Therefore we are vitally concerned with the weight gain which is above the increase in weight due to conceptional mass. Is this weight gain a physiologic increase due to the effect of the conceptus on the maternal organism? On the other hand, does it represent an insidious patho-

logic state which requires rigid control during pregnancy?<sup>2</sup>

Incomplete studies on both composition and weight change in pregnancy indicate that the average pregnant female gains approximately 42 pounds of lean body mass per pregnancy with an associated fat loss of about 18 pounds. If these preliminary studies are accurate, the leanest woman with the least fat to lose must ideally gain the most body weight, while obese women can well afford to gain little or nothing, or even lose weight as they exchange fat for lean body mass. It should be pointed out that for the obese female to obtain adequate vitamins, minerals, and protein the caloric intake must be at least 1200 calories per day. All zealous attempts at weight regulation may result in self restriction of essential food in order to meet a standard that is self imposed or proposed by a physician. Any attempt at weight control during pregnancy should be accomplished by vigorous efforts to maintain the patient on a diet high in protein, minerals, and vitamins. The good results reported in such a program have resulted from adequate nutrition, as regards the essential nutrients, not caloric restriction.

As we continue our instructions to the patient, we should remember that the outstanding premonitory signs of impending preeclampsia are excessive fluid retention and weight gain. We can assume that some edema during pregnancy is physiologic, being due to the decreased ability of the kidney to concentrate the sodium ion, increased pressure on the vena cava, increased permeability of the capillaries, and a hemodilution. However, in the patient with preeclampsia, these changes become much more marked, especially as regards extracellular fluid and electrolyte alteration. It is the speed and degree of these disturbances in the kidney, liver, and brain which cause the very symptoms and signs of preeclampsia. How can we best prevent the insidious onset of fluid retention and the development of preeclampsia? This can best be done by placing the patient on a low sodium diet, mildly restricted sodium intake, at the first prenatal visit. If not then, then during the third trimester of pregnancy. The patient should be instructed not to eat bacon, ham, or sausage, or any highly seasoned food. She should be instructed to cook her food with a minimum of salt, or seasoning, and to add none at the table. Processed meat, cold cuts, smoked shoulder, and Kosher meat contain a high sodium content and should not be eaten. Beets, celery, kale, spinach, frozen lima beans, peas, and most canned vegetables, except those canned without salt, contain a high content of sodium and should be eaten in limited amounts. Fruits are the group consistently low in sodium content and can be used to one's heart's desire. The advantage of beginning a

2. Seitchik, Joseph, and Alper, Carl: The Relationship of Body Composition to Changes in Weight During Pregnancy, Surg. Clin. North America, Dec. 1954, p. 1535.



mildly restricted sodium diet early in pregnancy is that the patient becomes used to the "fresh food" and does not object as much if it is necessary to place her on a moderately or severely restricted sodium intake later in pregnancy. Salt substitutes are not advocated, or given, since the patient becomes used to the taste of the food with a decreased sodium content and does not mind the taste. If, in spite of a mildly restricted sodium intake, the premonitory signs of preeclampsia develop, then the patient must be seen twice weekly or at weekly intervals and placed on a moderately or severely restricted sodium intake. If the edema and excessive weight gain cannot be controlled by reducing the sodium intake, then a diuretic may be given. Diamox, 250 mg. 30 to 45 minutes before breakfast, or Diuril, 250 mg. twice a day will usually result in a decrease in the edema with accompanying weight loss. Diamox and Diuril should be given for 4 days, stopped for 3 or 4 days, and repeated since patients become refractory to the drugs if given continuously for long periods.

As mentioned previously, edema and weight gain are prodromal signs of preeclampsia and should be treated vigorously and adequately on an outpatient basis. A diagnosis of preeclampsia is made from one of the following: 1. A blood pressure of 140/90 on two successive occasions, at least 6 hours apart, or an increase in the systolic pressure of 30 mm. of mercury, or a diastolic pressure of 15 mm. of mercury on two occasions at least 6 hours apart; 2. the development of a significant amount of proteinuria; 3. excessive weight gain and/or edema.

The patient who adds 8 to 10 pounds of weight in one week due to fluid retention should be considered as much a preeclamptic as a patient with a blood pressure of 140/90. It is usually impossible for the patient with preeclampsia to obtain adequate therapy at home. Early hospital treatment may result in adequate response to therapy and the prevention of eclampsia and other complications, but, most important, the delivery of a viable, healthy infant.

Dietary care has been discussed to some extent and I have yet to mention dietary supplements, or the pale, pink pill. The average expectant mother feels that she cannot deliver a healthy child if she does not take a pill, or several pills, 2 or 3 times a day. One is never asked about diet during pregnancy, but there are always numerous questions, such as "When are you going to give me my pills?," "My friends are already taking their pills, when do I get mine?," "Is it all right if I continue taking my vitamins, minerals, and iron?" Thus, to the patient, prenatal care is a pink pill, an orange or black pill, a red and white pill, or a

blue pill. The working expectant mother usually carries her pills with her and during the lunch hour the gestational group compares pills as to size, shape, color and price. The pregnant female has been sold the idea that it is essential that pills be taken to assure a normal pregnancy. The physicians have not taken the time to convince patients that it is much better to have an adequate dietary intake, and to eat an adequate wholesome diet during the preconception, intrapartum, and postpartum periods. One must take the time and effort to sell to the preconceptional as well as to the pregnant female good dietary habits. The fact that the infant at birth is nutritionally 9 months old is proof that special consideration should be given to the diet of the mother prior to and during gestation. The preconceptional period, in which the body develops its potential for child bearing, must be considered a segment of the reproductive cycle and a period of major importance in relation to maternal and infant nutrition. The storage of certain nutriment by the maternal organism prior to pregnancy has been shown to be of great importance for the future health of the mother and her child.<sup>3</sup>

Routine laboratory procedures that are ordered will vary with the physician, but the following are minimal:

1. Hemoglobin and volume of packed cells.
2. Urinalysis.
3. Rh factor and blood type.
4. Serology.

Because of the increased dangers from irradiation, it is preferable to obtain a chest x-ray prior to gestation; however, this should not deter one from obtaining it any time during pregnancy if it is indicated. A complete blood count and volume of packed cells may be preferred by some instead of a hemoglobin and volume of packed cells. On each return visit the urine should be checked for albumin and sugar, and the hemoglobin with VPC should be repeated at least once and preferably twice during pregnancy. Rh antibody titers are indicated if the wife is Rh negative, and her husband is Rh positive. Again one cannot emphasize too much the "office chit-chat" with each visit to gain the confidence of the patient. During these conversations, the physician should learn the patient's fears, the type of anesthesia desired, and any other information that the patient thinks is vital to her or her unborn child.

#### CONCLUSIONS

Prenatal care is a very important part of the total management of the gravid woman. The pa-

3. Macey, Icie G.: Optional Nutrition During the Human Life Cycle, Food and Nutrition News, Vol. 28, No. 7, April 1957.



tient-physician relationship during this time enables the mother to become physically and psychologically better prepared for parturition and gives the physician the necessary observation period to detect and treat early the complications of pregnancy, particularly preeclampsia. Good dietary advice and practice are very essential. A well balanced diet, including green vegetables,

fruit, brown cereals, milk, and an ample amount of lean red meat, with or without dietary supplements, is the best means of preventing maternal complications with the delivery of a mature healthy infant. The low sodium diet, approximately 2 grams per day, with or without diuretics, is the cornerstone in the prevention of preeclampsia.

## COMPETITORS OR CO-WORKERS

T. BRANNON HUBBARD, SR., M. D.

Montgomery, Alabama

I felt highly complimented when I was asked to give this talk. When I thought it over I realized I had been invited to do so because I have been working a long time and have gotten along fairly well with my fellow practitioners. However, it is one thing to live and another to pass on to others the knowledge of that in which one has succeeded and of that in which one has failed.

"The moving finger writes; and, having writ, moves on: nor all thy piety nor wit shall lure it back to cancel half a line, nor all thy tears wash out a word of it."

In any case, free advice, especially when it is given unasked, is rarely worth very much. I have tried to think of any advice that my teachers had given me during my four years at medical school and two years internship as to how to use the scientific knowledge and skill that they had tried to impart, in its practical application. Only one comes to my mind. Dr. Gibson, when he saw us young men become discouraged over the little that we could do for cancer patients, just as we are discouraged fifty years later, would say, "Keep these people living as long as you can for some day we shall find the cure for cancer and only those who are living will benefit by it." So it was in my college days. During the three years spent at Washington and Lee, once every month we had a prominent man address the student body. Of some thirty or more I remember only two, Dr. Howard Kelly of Johns Hopkins and Mr. Shaw, Secretary of the Treasury under Theodore Roosevelt. Dr. Kelly attracted our attention because he was said to have the highest professional income of any doctor in the United States, \$100,000.00 a year—a lot of money in those days. Dr. Kelly at that time was professor of obstetrics and gynecology at Johns Hopkins University. But I remember nothing of what Dr. Kelly said.

I do recall one anecdote Mr. Shaw related. He said that he grew up on a farm and, as was gen-

erally the case, there were a great many rats about the farm. His father would give him a penny apiece for each rat that he caught and killed. He caught them in one of those old fashioned wire contraptions. After his trapping had gone on for sometime he noticed that when the rats found they could not get out of the trap they became so panicky that they would leave untouched the cheese that was there for bait. One morning he found a single young rat sitting contentedly, having eaten all the cheese. The boy was so impressed by the rat's savoir-faire that he turned him loose. "The lesson, gentlemen," said Mr. Shaw, "is that when you are caught in a trap, whether professional, matrimonial, financial or what not, eat your cheese." But, in the first place, "the wise man foreseeth the evil and hideth himself." He doesn't get into the trap.

I have known men who have studied medicine because their fathers or brothers were doctors, or because they or their parents thought it was a respectable profession. Only recently a young doctor said to me that he did not believe that so many men would go into medicine if they did not feel that it was a way to make a good living. One does not have to look very far to find many such men who are discontented, unhappy and sometimes dangerous people. I have been told that only about one-third of the men who study law ever actually practice it. It probably would be a good thing if more of the men who study medicine would give it up. But suppose that after all these years of study and training one feels that there is no escape from the trap. The only thing left is to eat the cheese.

As a medical student I roomed with a man whose father had a large general practice. When we were discussing our futures he would say that he was going to take up surgery and get a start from the patients that he gleaned from his father's practice. I said to him, "No, you will never be a surgeon for you have no idea of mechanics." He had an internship in one of the best hospitals in New York, and went home to do sur-

Part of an indoctrination seminar held during the annual session of the Association in Birmingham, April 10, 1959.



gery. He soon realized that he liked people but was not intrigued with the intricacies of their internal organs. So he gave up surgery and became one of Alabama's outstanding internists. You young men are fortunate today in having so many specialties to pick from that you can choose the kind of cheese that is best suited to your taste and powers of digestion. When I started in practice, except for a few eye, ear, and nose and throat specialists, all doctors did pretty much everything. There were a few who were more skilful surgeons but they did some general practice. One of our fairly recent professors of surgery delivered babies and did some general practice for his old friends as long as he lived.

In 1899 in Montgomery County there were 99 practitioners: 32 were specialists—surgeons, eye, ear, nose and throat men, and physicians in health service. Sixty-seven were in general practice, 67 out of 99. Today, in the 148 members of our Society, only 30 list themselves as general practitioners. In other words, while membership in the Society has increased markedly, the number of general practitioners has decreased more than fifty per cent. The new edition of the American Medical Directory points up the surging trend toward specialism among recent graduates. There has been a gain of some 9,000 full specialists since the 1956 edition, compared with an increase of only about 4,000 general practitioners.

But this is not all of the picture. Before World War II and the advent of Hill-Burton hospitals, there were very few specialists, surgeons or others, in southeast Alabama outside of the large cities. Today every town of any size has a surgeon or two and perhaps other specialists. I mention Montgomery County because I have practiced there for 46 years and have been fairly well acquainted with the situation during that time. In 1929 there were about a half dozen doctors in major surgery in Montgomery County, while a few general practitioners did an occasional appendectomy. Today there are 43 men doing major surgery. Although Montgomery is perhaps twice as large as it was in 1929, many of the patients that were formerly referred from the surrounding territory are handled by surgeons in their own communities. With this great number of specialists and so few general practitioners, the logical question is: How are these specialists to get their cases? Ideally, specialists should have all their patients referred to them.

Until a few years ago practically all ophthalmologists, so it has been said, received a rebate of \$5.00 or \$10.00 on every prescription for glasses they sent to a certain optical company for filling. This rebate was given them entirely without the knowledge of the patient. It does not take much

imagination to know that an ophthalmologist, no matter how little he found wrong with a patient's eyes, would be tempted to give him a prescription for a pair of glasses. Along the same line, I might mention fee-splitting. I have heard very little of this practice in Alabama but it evidently must have been very prevalent in some localities for the American College of Surgeons has waged a great battle against it. One of the items of the fellowship pledge of the American College of Surgeons is: "Upon my honor I hereby declare that I will not practice a division of fees, either directly or indirectly."

In spite of this, it became so common in a certain midwestern state that it was openly considered normal procedure. One of my young surgeon friends told me that he was deterred from settling in a certain city because he found that fee splitting was generally practiced. Fee splitting involves honesty of both the referring physician and the specialist to whom he refers the patient. When considered superficially it does seem unfair sometimes when a doctor is called to a patient in the middle of the night, sits with him for an hour or two, makes a diagnosis of, say, acute gall bladder, watches him for a day or two, and then calls in a surgeon who operates and charges a big fee while the general practitioner collects only for a few calls. But there is another side of the argument when we look deeper.

General Hawley, in listing the essential qualifications of a surgeon, names integrity, knowledge, judgment, imperturbability, and dexterity, largely in that order of importance. Every doctor has patients whom he becomes tired of treating and would like to refer to someone else. If he thought he would profit financially by so doing he might refer them sooner and be influenced to fit his diagnosis to the situation. A surgeon would likewise be influenced to operate on a patient and accept the medical man's diagnosis whether he actually agreed or not. "You scratch my back and I'll scratch yours." There are many ways in which fee splitting can be done. The most usual is for the referring doctor to act as assistant in the operation and to be given a part of the fee, unknown to the patient. Of course, an assistant is required in all major operations, and he naturally expects a fee, but to obtain the best results a surgeon should have an assistant with whom he is accustomed to work and one who is a good enough surgeon to complete the operation should some accident occur.

There are several characteristics that distinguish the young doctor of today from his predecessors of twenty years ago. In the first place he is better trained. All of you have had internships, many have had supervised residencies. All members of



the various boards, whether internists, surgeons, urologists, obstetricians and gynecologists, and men in eye, ear, nose and throat work, have had prolonged residencies. Second, being better equipped, they expect better remuneration for their services. Such remuneration becomes a necessity as most of the young doctors are married and, for some reason, or lack of reason, have such a faith in their futures that they have large families. Third, some owe debts and all seem devoid of any aversion to making new ones. Fourth, the expense of carrying on a practice is much greater than formerly as far as office, assistants, et cetera, are concerned. But, in spite of these responsibilities, young doctors follow the modern trend of working fewer hours and taking time off for sports and recreation. Is there any way in which we may harmonize these two concepts of doing less work and making more money?

One must realize that ever since Mr. Roosevelt started this era of federal paternalism and continued inflation money has steadily decreased in value and naturally is easier to collect, and credit is unbelievably cheap. But aside from this faith in continued inflation there are two methods by which the modern doctor may utilize his skill and at the same time conserve his time and energy. I refer to clinics and partnerships. Of course the example of the outstanding organization of this sort started as a combination of the two, when Dr. Charles and Dr. William Mayo, who were partners, took in some other men and formed a clinic. By such a combination they were not only able to give better service but they could do it more cheaply. Today everyone is talking and writing of the high cost of medical care; it is truly frightening. Clinics that give real service for less cost would be a genuine answer to this problem. So far, however, such clinics have not made much headway in Alabama. The field is open.

The other means by which a doctor may conserve his energies, save his time, and work more scientifically is in the formation of partnerships. These are evidently increasing in frequency. In a recent review of 500 two- and three-men partnerships, the following observations were made: (1) Partners should probably be in the same field of practice. By so doing they can give faster and better care, stimulate one another to keep up with scientific progress, and they are able to take more time off for recreation. (2) Partners should have a fairly long trial run before joining forces, for men to work together every day and share the work, the credit and the cash requires that their temperaments should be reasonably congenial. (3) Doctors should draw up a precise, written agreement. This should outline what is expected of them while working together and what arrangements should be made should the partner-

ship be dissolved by death, incapacity, or for other reasons. (4) Partners should share the work load as equally as possible. (5) Partners should be emotionally mature. In other words, they should consider the partnership first and individual rights and benefits as subservient to it.

As mentioned before, you well trained men have the fine stock of modern goods that the public needs. But how are you going to sell them? We have been told that doctors can't advertise, but any business firm will tell you that you can't sell a product unless you do advertise. After I had borrowed the money to buy a cheap little automobile, I was looking around for some patients. My father's family physician, the last one in the city to give up his horse and buggy, said to me, "Now Brannon, at first the other doctors will say nice things about you, that you have a good father and mother, and that you have had good training, et cetera, but as soon as you start getting some of their patients they will say hard things. Don't mind about that. The only time to worry is when they don't say anything about you at all."

That was old P. T. Barnum's philosophy. Formerly a doctor could attract attention by driving a fine car, but today anyone can pay a dollar down and get one. One doctor I knew attracted attention and adverse criticism of other doctors by having an unusual car with his initials painted on the door. But how can a doctor advertise in a legitimate and gentlemanly fashion?

I had a friend who was an excellent surgeon but somehow he never seemed to impress his patients with a conviction that he had done anything more than anyone else could do. The best advertisement that any doctor can have is a patient who is not only satisfied but who is enthusiastic and who will say: "I don't believe anybody could have been kinder and more attentive than Dr. X, and I am sure that I owe my life to his skilful service."

Such a patient not only tells his friends but, if that patient has been referred by another doctor, the referring doctor will be pleased and send you other patients.

The general practitioner has a tremendous advantage over the specialists in this respect. From one enthusiastic patient his practice may grow like an inverted pyramid. A grateful old lady once said to me, "Doctor, I haven't any money but I will always give you a good name." My reply was: " 'A good name is rather to be chosen than great riches,' and if you give me a good name, getting the riches is my responsibility."

But we need not worry about the general practitioner. All he has to do is to give service. *Omnia vincit labor*. But the specialists—the in-



ternist, the surgeon, the urologist, et cetera, who depend on referred work would have to plan more carefully. Dr. Cannon has described very beautifully our medical organization. Being a member of a medical society is not only a duty and responsibility but it is a most legitimate and useful means of advertising your wares to your fellow practitioners.

Francis Bacon said, many years ago: "Reading maketh the full man, writing the accurate man, and conversation the ready man." There is no better place to put into use these accomplishments than in our medical societies and staff meetings. Every doctor does some reading of medical journals and text books, but when one starts to write a paper even on the most elementary subject, he realizes how comparatively inaccurate some of his observations are. He must look up statistics, he must quote authorities correctly, he may even have to look up some detail of anatomy or pathology that he had learned many years before. Formerly it was common practice for members to discuss from the floor papers read before county medical societies and the Association. I think it is a pity that this habit has gone out of vogue. But in the staff meetings of hospitals there is still plenty of opportunity for such discussions.

Our medical societies are forums for dissemination and discussion of scientific problems. They also have other functions. As Dr. Cannon has brought out, it has been through our medical societies—county and state—that our health system has been built up. But aside from the scientific and political value, our medical societies, both county and state, and group meetings of specialists are the means of forming many friendships that would never be formed in the course of one's daily practice.

During my sojourn as a medical student in New York some of us occasionally went to the Metropolitan Opera House. This was during the days of Caruso, Sembrich, Scottie, when the Met. was probably at the height of its glory. It was laughable to see the jealousies of the various artists. For instance, none of the others would speak to Caruso. Doctors are prone to fancy themselves artists, or at least have artistic temperaments, and are subject to jealousies just as the opera stars. Formerly, doctors thought that they owned their patients and felt resentment when they went to other doctors. I could tell of fights, duels, and murders.

Whether it is that association in medical societies, hospitals, et cetera, has fostered a certain degree of comradeship, or that the complexity of medical practice has made the referral of patients from one doctor to another necessary, certainly it is that in some sense there must always be

competition between the same specialists. We must work together if we expect to give our patients the service that they deserve.

Yesterday I read where a judgment of \$100,000.00 was awarded a woman who was injured in an auto accident. Judgments of over \$200,000.00 have been awarded in malpractice suits against doctors. Some of these malpractice judgments are given according to what the courts call *res ipsa loquitur*. But many suits are started on very slender provocation—sometimes a careless criticism by one doctor of another doctor's work. Remember, gentlemen, that we never know all the details attending any operation or treatment. Never believe anything that a patient says that another doctor has told him, nor give an opinion as to another doctor's work, unless it is complimentary.

I have already mentioned the high cost of medical care both as to hospitalization and treatment. This is disturbing not only the disgruntled public but the thoughtful and conscientious members of our profession as well. If we are to profit by England's example we should strive to prevent socialized medicine.

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**Hypnosis Cures Hiccups in Heart Attack Victim**—A single hypnotic suggestion successfully cured an eight-day case of hiccups in a man recovering from a heart attack, two Philadelphia doctors have reported.

A serious complication of myocardial infarction, hiccups produce extreme exhaustion in the patient if they are prolonged, Drs. Gordon Bendersky and Martin Baren said.

A 55-year-old man developed hiccups 22 days after he had suffered a heart attack. After eight days of almost constant hiccups, during which all the standard treatment methods were tried, the patient was given one hypnotic suggestion that the hiccups would disappear.

"This proved to be successful. Except for two hiccups which occurred several hours later, the hiccups failed to return. The remainder of his convalescence was uneventful," the doctors wrote in the September Archives of Internal Medicine, published by the American Medical Association.

No other case of successful termination of hiccups following a single hypnotic suggestion has been reported, the doctors said.

While the general use of hypnosis for eliminating psychosomatic manifestations cannot be endorsed and may be highly dangerous, the doctors said, they believe the seriousness of the hiccups and the failure of all other methods warranted its use.

Dr. Bendersky is associated with the Hahnemann Medical College and Hospital and Dr. Baren with Children's Hospital, Philadelphia.

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The rate of admission to general hospitals in this country has increased by almost 80 per cent in the last 20 years, from 56 to 99 admissions per 1,000 population. As a result, says Health Information Foundation, these hospitals "have become increasingly important in the total health picture."



## SHEEPSKINS AND DECUBITUS ULCERS

LUTHER DAVIS, JR., M. D.

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Modern medicine has, through early ambulation and open reduction of fractures in elderly and debilitated patients, eliminated many conditions that predisposed to decubitus ulcers (bed sores) but in our many advances we are prolonging lives of persons once thought to be beyond hope—the paraplegics, advanced metastatic malignancies, the apoplectics, the badly burned and others that live as invalids long enough to become candidates for bed sores. This leads us all to realize that, even with our remarkable progress in medicine, surgery and nursing care, the bed sore still remains a problem.

The etiology of decubitus ulcers is physiologically the result of prolonged pressure over one or more of the bony prominences, such as the sacrum, trochanters, ischial tuberosities and heels. In patients unable to care for themselves, unable to turn at will, and incontinent of feces and urine, the natural body defenses against ulceration and secondary infection are destroyed. The loss of subcutaneous fat, loss of sensation, loss of muscular and vascular tone, poor nutrition and friction of dressings or bed coverings make bed sores inevitable. Many such sores are a result of socioeconomic conditions, haphazard nursing care, and failure on the part of the attending physician to recognize the possibilities of such a condition. Intelligent nursing care is a real prophylactic but, regardless of the calibre of nursing care, physician care and the wealth of the patient, there are some decubitus ulcers that are unavoidable. After an ulcer develops, treatment at best is slow and uncertain because the physiologic elements which support wound healing are in short supply. The local treatment of an ulcer should be to assure optimum availability of these reduced forces at the site.

In the literature, treatments and opinions are many and varied. Some of these should be mentioned. The many ointments, such as boric acid, A & D, Balsam of Peru, and scarlet red, are mentioned only to be condemned. Proteolytic enzymes are of some benefit in removing necrotic tissue and debris but these are expensive, and personally I do not feel that they are worth the price. Thorough debridement by sharp dissection is time saving and a sure way of cleaning an old ulcer. The application of dried blood plasma has some advocates, and there are reports of success in using vitamin E locally, Aveeno packs and heat tents. In the literature there are many pa-

pers dealing with surgical repair of decubitus ulcers, including tubular grafts, full thickness grafts, undermining, and many others. These are useful in eleemosynary institutions and government hospitals as we all know that by the time the average patient becomes a candidate for bed sores his economy is also in a bad state of repair. This makes many useful surgical procedures out of reach of most sufferers.

Dr. Irving Mauer introduced a saran fibre in 1957. It is non-wettable and resilient. When a wound is packed with this, it is possible to change blood- or serum-soaked outer dressings without disturbing the wound. Another device, and possibly the ideal affair, is the alternating pressure mattress. This is in effect a pneumatic plastic mattress that is placed on top of the regular mattress. It is waterproof and contains parallel rows of air cells. Alternate series of these cells are filled and emptied every 3 minutes by means of a small electric pump. The pressure in the inflated series is sufficient to support the patient while the alternate series of cells is being deflated. Viewed from beneath, the patient's skin can be seen to blanch and flush alternately. The change in pressure is gradual, and the patient is unaware of such movement. This appears to me ideal, but here again the matter of economics rears its head.

It is not the purpose of this paper to go into the pros and cons of the many types of treatment and appliances that I have just mentioned. Fortunately, several years ago we discovered the usefulness of sheepskins. The only report in the literature on this type therapy was in the May 1952 issue of the American Journal of Nursing by Miss Margaret B. Woodruff, at that time the Director of the Visiting Nurse Association of West Chester, Pa. I feel sure that one of our nurses can be given the credit for this innovation at the Druid City Hospital in Tuscaloosa, although as yet she has been too shy to step forward and claim a much deserved accolade. As in any disease or condition the best treatment is prevention, bearing in mind that prevention must be undertaken long before the actual process of impaired circulation and the telltale redness or vesicle formation appear, remembering also that in prevention the appliance or dressing must be large enough to cover all bony surfaces; and if the patient is helpless, do not forget the heels, elbows, and the occiput. I feel, too, that the hospital sheet is an abrasive. How many of you have seen sore elbows and knees develop in well developed, even well padded, obese patients? In Tuscaloosa our nurses are kind enough, if our memory fails, to remind

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Read before the Association in annual session, Birmingham, April 10, 1959.



us that this or that patient has possibilities of developing bed sores. Immediately these patients are placed on a sheepskin. I apologize for not having slides to demonstrate but prevention makes poor pictures. In lieu of this I have brought with me two skins—one in use for a month, the other unused. As I have stated, in susceptible patients we place them on skin, bearing in mind that, if one skin is not large enough to cover all parts, we use two.

In the treatment of a decubitus ulcer, we debride the ulcer by sharp dissection and place the patient on the sheepskin without dressings. We know that a wrinkled sheet, gauze, or adhesive embarrasses an already inadequate circulation. The sheepskin meets all of the requirements necessary to promote healing. It is resilient, airy, and does not wrinkle, permitting even pressure not only at the site of the ulcer but over a large area of the body. Friction is not created by rubbing or sliding, and moisture is absorbed and dissipated by the spongy and airy qualities of the wool. The skin is changed when soiled, usually every 3 to 7 days. The soiled skin is cleaned with mild soapy water or by spraying it with the garden hose, allowing it to dry in open air, not by artificial heat as this causes the leather to become stiff and unmanageable. After drying, the wool can be fluffed up to its original state with a small brush. One patient, an apoplectic bedridden for three years, nursed at home without benefit of retention catheter, used two skins in three years. There have been several patients with large ulcers that healed completely—one that exposed the sacrum healed in twenty days. There are many others.

There are other uses for this covering. Some of us have had excellent results in open treatment of burns of the chest and back. The patients are comfortable, and when they turn in bed the skin doesn't stick to them and, again, there are no wrinkles. It is also very efficacious as a bed covering for premature babies. Possibly there are many other ways in which this skin can be useful.

In closing, I would like to repeat the qualities of the sheepskin: It is resilient, soft, distributes pressure evenly, dissipates moisture and drainage, spongy, airy, does not wrinkle or produce friction by rubbing or sliding, is easily cleaned and almost indestructible. It has been a valuable aid to all of us in Tuscaloosa.

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**Don't Underestimate a Child's Intelligence**—Don't put three strikes against your child's mental ability until he—or she—has had a chance to go to bat, Willard Abraham, Ph.D., of the special education department, Arizona State University, cautions parents in the October Today's Health, an American Medical Association publication.

Dr. Abraham is disturbed by parents who believe a child is mentally retarded when he really is not.

"Few of us are objective about our own," writes Dr. Abraham. "We see them as we want them to be or as we fear they are, but seldom as they really are. We usually enjoy thinking they're bright (whether they are or not), and that error may result in undue pressure, frustration, and disappointment. But even more serious is the error of underestimating our child's intelligence, and not recognizing the importance of it."

Dr. Abraham devised a check list to aid parents who may be too close to their children to see them accurately.

"It is especially effective for those of kindergarten age or slightly older," he said, "and will help differentiate the youngsters who are among the less bright from those who seem to be retarded but actually might be near the top of the scale."

There's a caution sign attached to Dr. Abraham's check list statements: It's the idea that counts. The first part, taken by itself, may be a bit disturbing, so no conclusions should be drawn until the second part is read.

The question parents should ask is "Do both parts of the statement apply to my child?" For instance:

(1) He has a short attention span—doesn't stick to a task very long—but (2) he has many interests or hobbies as he jumps around mentally, hopping from one to another.

(1) His vocabulary often has a one-syllable limitation, but (2) once in a while he surprises you by accurately using words like practical, jet propulsion, historical and realistic.

(1) He seems to demand countless explanations of why he should brush his teeth, eat balanced meals, and wash his hands before eating, but (2) you get the feeling he was pulling your leg all the time when you overhear him patiently explaining these important facts of life to his little brother or sister, using terms much more understandably than you did with him.

Dr. Abraham calculated one "yes" answer on the 10-point list should give you an inkling that you've been wrong about your child; two to four should provide "concrete assurance," and five or more "yeses" ought to have a parent smiling inwardly with a secret apology because his child is brighter than he thought.

Once the problem of supposed mental retardation is out of the way, Dr. Abraham urged parents to refrain from over-attentiveness as a child learns to stand on his own two feet.



# FACTORS INFLUENCING MANAGEMENT OF PERIPHERAL VASCULAR INJURY

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Present day success of direct vascular surgery is so enthusiastically presented by those with vast experience that the busy surgeon may begin to see only "trees" while overlooking the "forest." This is illustrated by instances of detailed peripheral vascular reconstruction in the presence of widespread, severe trauma. Surely, this is evidence of distorted perspective. It is the purpose of this discussion to suggest some pertinent points for critical reappraisal.

Given a young, healthy individual with a knife wound involving a major peripheral arterial trunk, one has the optimum case for immediate vascular repair. Very often, even multiple stab wounds will not inflict major visceral injury and arteriorrhaphy may be carried out with dispatch.

We encounter our first difficulty when the companion vein is severed concomitantly. Next in order of difficulty is the involvement caused by gunshot (especially if hi-velocity) and finally the contusing, avulsing type of injury, often associated with massive destruction of muscle and compound fractures, presents the most formidable problems.

All of these injuries are much more likely to result in treatment failure if the involved tissues are unhealthy by virtue of previous disease or injury.

It is important to realize that beyond arrest of hemorrhage, none of these injuries ever takes priority over visceral injury. If necessary, the vessel should be clamped aseptically to arrest

ARTERY	POINT OF LIGATURE	COLLATERALS	PROGNOSIS
Common Carotid	Any Point	Vertebral, Contralateral Internal Carotid, External Carotid Anastomoses	Guarded. Exceptional effort to restore continuity is in order.
Subclavian	Any Point	Anastomoses at: Super Thoracic Thyrocervical Trunk Costocervical Trunk Subscapularis Infrascapular	Fair. Anticipate residual claudication.
Axillary	Proximal to Subscapularis and Circumflex Humeral	Thoracoacromial Subscapularis Ant. & Post. Circumflex Humeral	Good
Axillary	Distal to Subscapularis and Circumflex Humeral	Small Twigs from Circumflex Humeral to Profunda Brachii (poor)	Poor
Brachial	Distal to Profunda and Superior Ulnar Collateral	Profunda Brachii Superior Ulnar Collateral Radial Recurrent Ulnar Recurrent	Good
Brachial	Antecubital Space	Profunda Brachii Superior Ulnar Collateral Radial Recurrent Ulnar Recurrent and many small branches	Good
External Iliac	Proximal to Deep Epigastric and Circumflex Iliac	Deep Epigastric via Circumflex Iliac Hypogastric	Fair. Anticipate Claudication.
Common Femoral	Any Point	Inferior Gluteal Medial Femoral Circumflex	Guarded. Anticipate Claudication.
Superficial Femoral	Any Point	Inferior Gluteal Medial Femoral Circumflex and Profunda Femoris	Good
Popliteal	Any Point	Geniculate Anastomoses (weak)	Poor
Anterior Tibial Posterior Tibial Peroneal	Ligation of a single one of these is quite safe. If two are interrupted, varying degrees of ischemia can be expected.		

Favorable and unfavorable points of ligation of major peripheral vessels are evident. The prognosis must be altered in accordance with the traumatic pathology as generally indicated in the text.



hemorrhage in order that shock may be adequately treated prior to surgical intervention (Case I).

When, in the surgeon's judgment, the patient can tolerate definitive surgery, the necessary craniotomy, thoracotomy and/or celiotomy can be carried out, repairing and excising such structures as indicated. Only then is attention directed to the peripheral vascular damage. The patient's condition will determine the approach to this injury. In this connection it is well to keep in mind the optimum sites for simple ligation of the peripheral vessels (see table) as circumstances may demand ligation in the interest of saving the patient's life. Collaterals will often carry a limb indefinitely (in the inactive state) and the main channel can be repaired at a more optimum time. If two teams can work simultaneously, the vascular and visceral injury are approached concomitantly. Even then, the vascular procedure must not prolong operating time to the detriment of the patient generally (Case I, Case II).

Assuming feasibility of vascular reconstruction, one must evaluate available procedures and their several aspects in the light of the traumatic pathology.

#### IMPLICATIONS OF SPECIFIC WOUNDS

*The Incised Wound:* The clean, incised wound offers an ideal injury for end to end repair. Here even the vein may be sutured with reasonable anticipation of success. Provision for the rigid control of edema must be made. (Tight bandages are contraindicated.) The single most disastrous technical error in venorrhaphy is suturing under tension; this invariably collapses the vessel lumen and invites thrombosis.

*The Gunshot Wound:* In gunshot wounds of blood vessels the injury partakes, to a greater or lesser degree, of the elements of the contusing-avulsing injury. Particularly in hi-velocity wounding, vascular contusion alone or in conjunction with laceration may initiate thrombosis over long segments of vessel. In general, a successful venous repair is unusual. However, the auxiliary veins and lymphatics of adjacent muscle masses will ordinarily suffice if a major vein is to be ligated. This is not likely at or just distal to joints where muscle mass is minimal. Multiple fascial incisions will permit maximum venous distention and flow and should be employed if the principal vein is ligated. The artery is repaired in one of the several available ways: lateral repair, end to end suture, or a grafting procedure. Contusion over great lengths of vessel indicates a by-pass graft as the preferred therapy. This latter procedure involves considerable exposure and dissection and requires time. It is undesirable in a patient not in optimum condition for tedious work. Further-

more, previous circulatory impairment, mitigating against success, would suggest that a simpler method be employed.

*The Contused-Avulsed Wound:* A crucial feature of these injuries, often omitted in discussions, is the state of the venous pathways in the involved area.

In massive destruction of muscle mass with its concurrent venous interruption, good arterial flow distal to injury can only serve to congest the limb and by edema further compromise viability. Edematous compression of smaller collaterals produces a sluggish arterial "run-off" predisposing to failure of arterial repair by whatever means. Repair of the venous circulation in these circumstances is a practical impossibility. Thus, in the interests of a "balanced" circulation, reliance is more correctly placed on collateral channels. (If there are none, one may expect loss of the involved limb.)

A temporarily successful repair may retard development of collateral flow because such channels develop most rapidly in response to an occlusive force and in the fresh state. A further hazard of a temporarily successful repair is the propagating thrombus, which, in edematous limbs, may involve many collaterals with disastrous consequences. Hence collateral flow is nurtured by: 1) maintenance of blood volume, 2) removing traumatized vessel and carefully ligating the trunk, 3) sympathetic blocks (by indwelling catheter in the lumbar area to avoid aortic hemorrhage during anticoagulant therapy), 4) heparinization,\* and 5) prevention of infection.

A neutral or slightly dependent position of the extremity is preferred, though serious edema may require alternate, brief periods of elevation. Edema and lymphangitis may occlude remaining circulatory "exits" from the extremity (Case III). (In managing this problem Chymar® has been helpful.)

Three case abstracts serve to illustrate the essentials of the foregoing remarks.

#### CASES \*\*

##### I

A 27-year-old colored male was admitted to the hospital following multiple gunshot wounds of the abdomen and right groin. On admission the

\*Anticoagulant therapy is of value in delaying or preventing thrombosis in these limbs. However, this must be carried out with brief acting heparin *only* to insure instant control by antiheparin agents should hemorrhagic complications develop.

\*\*Identifying data intentionally withheld. Cases II and III are from the author's service. Case I was taken from other files.



B/P 0/0, the P 140 plus. Three pints of blood were given and a saline-levophed drip begun. The groin wound (at first dry) began to hemorrhage dangerously and could not be controlled by packs, pressure, etc. One hour and forty minutes after admission the patient was taken to the operating room with the levophed drip running (BP 115/65). The abdomen was entered and the right iliac artery controlled. The subinguinal area was then explored. The femoral artery was found lacerated and was repaired end to end. The record does not state where this injury lay in relation to the *profunda femoris*. A small bowel resection and urinary bladder repair were then accomplished. A postoperative blood volume showed a 1500 cc. deficit. Despite belated transfusion the patient expired 24 hours postoperatively in shock and anuria.

*Comment:* It is suggested that a clamp placed directly on the femoral artery would have permitted more adequate *preoperative shock therapy* with a better chance of patient survival.

## II

A 27-year-old colored male was admitted to the hospital with multiple gunshot wounds of the wrist, abdomen, and left thigh. The wrist injury was minor. Vascular damage to the left femoro-popliteal artery was fairly certain; moreover, a history of previous circulatory impairment in the left leg was obtained. This had developed subsequent to frostbite and multiple shell fragment wounds sustained in World War II. Celiotomy and vascular exploration were undertaken simultaneously. Cholecystectomy, hepatorrhaphy and repair of the right kidney were carried out abdominally. The popliteal vein (disrupted) was ligated and the femoro-popliteal artery debrided and repaired end to end. There was evident contusion of vessel to the popliteal bifurcation. During surgery the patient drifted in and out of shock. Immediately, postoperatively, distal pulses continued absent. Severe edema developed rapidly over the ensuing 36 hours. Fascial incisions were made on the third postoperative day (too late). Reexploration was considered but believed most likely useless. On the fourth postoperative day a postoperative psychosis developed. There was gangrenous demarcation above the ankle. The patient was transferred to a V. A. H. where amputation was done. The patient recovered.

*Comment:* In an isolated injury of this type a by-pass graft would have been best with the proximal orifice high on the femoral artery for "strong" inflow. A venous repair was probably doomed. However, fascial incisions at the time of surgery would have offered some help. The simplest procedure was chosen due to the general status of the patient at the time of operation.

## III

A 23-year-old colored male was admitted to the hospital six hours after an avulsing injury of the left arm associated with a compound fracture of the distal third of the humerus. In the operating room (where the author saw the patient in consultation), several centimeters of the brachial artery were macerated and thrombosed on either side of a complete transection. All major venous pathways were interrupted. The *superior ulnar collateral* was apparently destroyed; the brachial profunda intact. The anterior and lateral compartments were transected and medial musculature almost completely divided. Major nerves were intact. Thus the posterior and predominately tendinous structures of the upper arm (principally the triceps) constituted the area of intact circulation. The patient presented a dangerously compromised but "balanced" circulation. Management was based on the concept of advancing collateral flow. The brachial artery was "cut back" and ligated. The patient was given serial stellate blocks and was heparinized. Convalescence was prolonged. The left hand is still immobile and elbow motion markedly limited. An upper dorsal sympathectomy and various orthopedic procedures can be offered.

*Comment:* Management based on the concept of preserving a balanced though minimal circulation is well illustrated here. Again, inadequate outflow (irreparable) contraindicated attempts at encouraging inflow for reasons already discussed. This result is acceptable in view of the severity of the initial trauma.

## SUMMARY AND CONCLUSIONS

It is evident that one does not simply suture an interrupted, major, peripheral vascular channel. In fact, many times it is more urgent to control the vessel then ignore it. Should this injury be the principal one, careful consideration is in order before the corrective procedure is chosen.

Thorough knowledge of the average anatomy of collateral circulation, an appreciation of the pathophysiology of trauma, and cognizance of the methods and limitations of vascular surgery in the periphery will enable one to apply an intelligent therapeutic regimen.

ANNUAL SESSION  
ADMIRAL SEMMES HOTEL  
MOBILE

APRIL 21, 22, 23, 1960



**New Clue to Lupus Erythematosus Found**—The outlook for lupus erythematosus, a disease long considered to be very serious and nearly always fatal, is not so bleak after all, according to two Detroit doctors.

Reporting a study of 100 cases in the October 24 Journal of the American Medical Association, Drs. Clarence E. Rupe and Stewart N. Nickel, Henry Ford Hospital, said the disease is more benign than previously suspected. They also offered a clue to the possible cause of the disease.

Lupus erythematosus, also called LE, was once considered to be only a skin disease, because of its typical butterfly pattern of rash across the bridge of the nose. However, it is a systemic disease, affecting the joints and such organs as the liver and kidneys.

Treatment with artificial hormones, such as those used for arthritis, has a beneficial effect on the disease process by slowing it down and by carrying the patient through crises which once would have been fatal.

The benign course of the disease was illustrated by the fact that only 2 per cent of the total group "proceeded to incapacity," the doctors said. In addition, more than half of the men remained in good health and at full capacity.

Fifty of the patients survived the disease at least 10 years after the onset, and 45 of these are still living. Duration of the disease ranged from 10 months to 36 years.

The clue to a possible cause of the disease lies in the fact that many of the patients had streptococcal infections just prior to the onset of LE. Many had typical "strep. throat" infections, while others had other streptococcal infections, such as boils or ear infections. This suggests that hypersensitivity to the streptococcus bacillus may be an important factor in the disease, the doctors said, adding that this association may eventually produce a means of prevention.

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**Tinted Devices Declared Detrimental to Night Driving**—The use of any night driving lens or windshield, whether tinted, reflecting or polarizing, has been condemned by the Committee on Industrial Ophthalmology of the American Medical Association's Council on Industrial Health.

The committee—whose concern is the functions and diseases of the eye as related to industry—delivered its opinion in the October 17 issue of the A.M.A. Journal, after receiving many inquiries.

Its opinion is:

—That a night driving lens or windshield reduces the light transmitted to the eye, and actually makes seeing at night more difficult.

—That the source of night driving glare is the contrast between the headlights of oncoming cars and the darker surroundings. This contrast is not reduced by the use of tinted lenses or windshields. Instead they really reduce the intensity of illumination from both the headlights and the surroundings. This impairs vision.

—That there is no scientific evidence to support any claim that the use of tinted lenses or windshields improves night vision.

**Gun Safety Being Taught in High Schools**—Because a New Hampshire teenager was killed while hunting, thousands of American high school students are now learning gun safety.

Seventeen-year-old Robert Brock of Dover, N. H., was killed when the gun of his inexperienced hunting companion accidentally went off.

First stunned, then thoughtful, Robert's father decided that if some fathers did not teach their sons how to handle firearms he might do something about it himself.

So Charley Brock and his longtime hunting friend Delwyn Main "went into the spare time business of training kids how to shoot safely," according to an article in the October issue of Today's Health, published by the American Medical Association.

Eventually their "potluck" class turned into an organized extracurricular activity of the Dover High School. The idea spread across the state; the state legislature passed a bill authorizing any school district to offer a course in firearms safety, good hunting practices, and game laws. More than half of all New Hampshire schools provide such extracurricular instruction.

Nine other states—Vermont, Arizona, California, New York, Virginia, Ohio, North Dakota, Maine and Washington—and dozens of individual school districts have set up programs based on the New Hampshire plan.

The classes consist mainly of eight hours of classroom lecturing, along with four hours of practice on a target range.

The main points taught are the following rules that save lives:

—Treat every gun as if it were a loaded gun until you personally have proven otherwise.

—Keep the muzzle pointed in a safe direction.

—Always keep the action open except when ready to fire.

—Be sure of your backstop.

—Be sure of your target.

—Never mix alcohol and gunpowder.

—Never hunt with persons in front or back of you. Keep in an even line.

—Know your gun and ammunition.

The value of the gun safety program is well illustrated by what has happened in New Hampshire, the article said. Normally the hunting season produced two or three shooting fatalities every year. Since the school program began the state has gone through three hunting seasons without a single death.

This is not just a coincidence, the article continued. All the interest generated by the courses had a cumulative effect. Children and adults talked more about gun safety. Inevitably the talk led to extra caution in the field.

Not a single shooting accident of any kind has involved any of the thousands of graduates of the school hunter safety course. "In an area where virtually everyone goes hunting, this record is especially astounding," the article said.

Author of the article is Robert G. Deindorfer, New York.





## WHIPLASH INJURIES

GUEST EDITORIAL

ROSS T. MCINTIRE, M. D.

Chicago

Perhaps the most annoying symptoms associated with whiplash injuries are those disturbing vision. The neuralgias, that are so frequent, complicate the picture and very often make it impossible for the patient to continue his daily tasks. Because of the damage done to the cervical nerve, the pain distribution is quite wide.

Damage to any of the cervical nerves may be caused by this type of injury, the nerves most commonly affected being the second and third. As the great occipital nerve is a continuation of the second cervical nerve group, pain over the area supplied by this nerve is a common symptom. This takes in a large part of the neck, the occipital portion of the scalp, and the lower portion of the face. The pain is definitely neuralgic. The headache occurs in the following manner: Beginning in the suboccipital area, it radiates to the center of the skull and finally centers behind one or both eyes. Often it is unilateral. There have been many cases in which only frontal headache was present. This condition may last for more than a year, and it is not uncommon to see it persist over a much greater period.

Trigeminal neuralgia is a not uncommon symptom, especially when the injury involves the fifth cervical nerve. There is a direct connection between this nerve root and the fifth cranial nerve.

Often there is some degree of concussion, though not necessarily. The force transmitted by the striking automobile may be transmitted at an angle. This causes severe rotation of the neck, and when this occurs other symptoms are also present. Injury to the spinal accessory nerve, which arises from all cervical nerves, will cause spasms of the trapezius and sternomastoid muscles. Often there is spasm of all the occipital muscles. This spasm then causes traction on the great occipital nerve, with the result that severe pain is present over its entire distribution. In such a case, when the cervical portion of the spine is rotated, the symptoms are generally unilateral.

# Editorials

Vertigo and nausea often follow this injury. The most common ocular symptoms are loss of accommodation and very weak convergence—in fact, in many cases of severe damage, inability to fix on an object is a common symptom. This is understandable since injury to the second and third cervical nerves involves the cervical flexus, which in turn affects, most vitally, the trigeminal branches. The carotid plexus is often involved and, through its branches, causes neuralgia throughout the distribution of the fifth nerve and the sphenopalatine ganglion.

The ocular signs are of real value in making a diagnosis of this syndrome set up by injury to the cervical portion of the spine. Often, if no fractures have occurred, symptoms do not arise for a period of many years. The most common demonstration is usually in the distribution of the cervical nerves, especially those below the third, but ocular symptoms are persistent when complications of this injury show up months or years later. Loss of accommodation is one of the most difficult to correct. In some cases the intravertebral spaces are so narrow that there is constant impingement upon the cervical nerves.

Early treatment is important, and that means early diagnosis. Every injury to the cervical portion of the spine should be investigated promptly, for it is immediately after the accident that much can be done. Consequently, the publicity given to whiplash injuries in the past two years is of real value from an educational standpoint.

It is to be hoped that preventive measures will receive equal attention. The orthopedist and the neurosurgeon have the opportunity to present the best methods for relief of symptoms. The medico-legal aspects, which have assumed tremendous importance, should help to "tie in" the various points discussed. This is one phase that cannot be ignored and every doctor should have a clear understanding of his responsibility therein.

Once this has been accomplished, it will become easily possible to awaken public interest and to disseminate the necessary information among laymen as well as professional men. Cooperation on the part of the general public is indispensable to success.



## WEIGHTS OF MEN AND WOMEN

The generally accepted average weights of American men and women will have to be replaced when the Society of Actuaries makes public its new findings on body build, based on a study of large numbers of policy holders. The current weight tables are based on an actuarial study published nearly 30 years ago.

The new tables make obsolete the figures now shown on weighing machines and used by physicians throughout the country.

This is merely one of many startling new findings in connection with weight and blood pressure that will come from the Society's "1959 Build and Blood Pressure Study," scheduled for publication in a few weeks.

The study, which is by far the most extensive statistical investigation ever undertaken in the health field, includes almost 20 years of experience among 5,000,000 people as to body build and 4,000,000 people as to blood pressure.

With the participation of life insurance companies representing two-thirds of the nation's ordinary insurance, the tabulation work now nearing its end has called for putting 35 tons of punch cards through the machines. Had it not been for the new electronic equipment, the project would have required many more years than the four it has actually taken.

The many millions of individuals actually studied over a period dating back to 1935, provide a picture of recent mortality according to weight and blood pressure for comparison with previous studies, some dating to the turn of the century. Both standard risk and extra risk policyholders were included in the study. Separate tabulations have been made for men and women, which will reflect the material differences in weights, blood pressures and death rates between the sexes.

The findings include the most extensive body of information ever assembled on the effects of overweight on mortality, according to the actuaries. Such data could not possibly have been obtained from any other source.

Not only will conclusive evidence be presented of the current extra mortality hazard from overweight alone, but also from overweight in combination with other impairments, and there will be some new data on the effect of weight reduction.

Similarly, striking new conclusions are expected from the study of various degrees of high blood pressure. These findings are startlingly different from the beliefs now generally held, according to the chairman of the committee which is preparing the report.

The general conclusions of the study and the summary tables will be included in the first volume, to be published about November. It is expected that these findings will be further analyzed in formal papers to be presented to medical, public health and insurance groups throughout the country during the coming year. The detailed tables on which the summaries are based will be contained in a subsequent volume or volumes to be published next year.

## VIRUSES AND HUMAN CANCER

A cure for cancer, a disease which will strike one out of every four Americans now living, may be found through virus research even before the causes of the dread killer are fully understood.

The half-century-old theory that the origin of human cancer is in some way associated with viruses has only recently gained wide acceptance, reports *Fortune*, and cancer virologists feel themselves engaged in "a race to save lives."

Viruses, particles so small that they are visible only under a powerful electron microscope, cause a great number of dangerous illnesses ranging from yellow fever to polio, as well the lesser aches and pains associated with the common cold and ordinary flu. By 1959 more than 100 viruses had been definitely connected with human diseases.

At present, says *Fortune*, laboratory proof that viruses can cause cancer comes only from experiments with animals. The virus theory of human cancer is based upon likenesses between animal and human cancers and on the likeness of cancer viruses to other viruses.

"The virus hypothesis of human cancer does not argue that viruses are the cause of cancer in a simple cause-and-effect manner," says *Fortune*. "Virologists are convinced that genetics, hormones, chemical carcinogens, and irradiation are important in the origin and development of cancer."

Backed by large sums of money from the American Cancer Society and the National Cancer Institute, scientists are hard at work attempting to unravel the many mysteries surrounding the tiny particles. Among the questions posed: Can one type of virus cause many kinds of cancer? Is there a limited number of virus families, each of which produces a wide variety of cancers? May there conceivably be only one sort of virus that, by mutation, produces the entire cancer spectrum?

"If the answers to any of these questions is yes," says *Fortune*, "the problem of devising anticancer drugs—including new antibiotic-like substances—serums, and vaccines would be enormously simplified."



The biggest task facing virologists is to narrow the gap between knowledge of animal cancers and human cancers in order to demonstrate the role of viruses in humans as conclusively as they have done for animals. The steps taken will be the same as those taken to prove the virus origin of polio in humans, says Fortune, but the job is much more complicated because cancer is much more complicated.

The steps:

1. Learn how to extract viruses from infected human tissue.
2. Perfect methods of growing as many human "cell lines" as possible in the test tube.
3. Determine whether or not the viruses are active in tissue culture.
4. Identify the viruses.
5. Determine the incidence of cancerous diseases of a specific type in which viruses of a specific type are found.
6. Determine the action on viruses of antibodies in blood taken from human patients.

"Viruses may be the one factor that must be present if cancer is to develop," concludes Fortune. "If so, they are the key link in the complex chain of malignancy, the link that must be broken before cancer is conquered."

#### SOUTHERN MEDICAL

When Southern Medical Association holds its 53rd annual meeting in Atlanta November 16-19, it will mark the fifth time that the 13,000-member body has met in Georgia's Capital City.

Atlanta was chosen for the annual meeting in 1908, only two years after the Association was formed, when membership numbered a mere few hundred from a half dozen Southern States. Dr. B. L. Wyman, Birmingham, was president. Scientific sections at the time of the 1908 meeting were only three in number—Surgery, Medicine, and Ophthalmology and Otolaryngology—compared to the comprehensive twenty of today.

Again in 1916, when Dr. Robert Wilson of Charleston, S. C., served as president, SMA chose Atlanta as its meeting place.

By 1926 membership in the Association had expanded to include all of the 16 Southern States and the District of Columbia, now forming Southern Medical Association, when Georgia's Capital City was again chosen. Dr. C. C. Bass, New Orleans, was Association president.

In 1953, when the number of scientific sections had climbed to the present 20 and membership had increased to 9,000, Atlanta again received the nod as the site for the annual meeting. This year, Dr. Walter C. Jones, Miami, Fla., was president.

And now in 1959, with membership totaling a whopping 13,000, representing a phenomenal growth in the last few years, Atlanta is host once more to the medical association that is called one of the country's most influential and useful. Members include physicians from the Canal Zone and Puerto Rico, as well as the 16 Southern States and Washington, D. C.

Dr. Milford O. Rouse, Dallas, Tex., is now president. At the concluding session, he will hand the reins of office to the president-elect, Dr. Edwin Hugh Lawson, New Orleans.

Atlanta is one of three cities among 28 of the South's largest which has been honored five times as the choice of SMA membership for its annual meeting. The other two are New Orleans and Miami. The important first organizational meeting was held in Chattanooga, Tenn., in 1906.

Southern Medical Association has also elected three presidents from Atlanta. They were Dr. Stewart R. Roberts, 1925; Dr. Frank K. Boland, 1937; and Dr. Edgar G. Ballenger, 1945.

#### MORE PERMANENT PROTECTION

In the past five years the insurance business has developed some 30 new approaches that provide more permanent health insurance protection for virtually all segments of the American public, according to James R. Williams, Vice-President of the Health Insurance Institute.

"In this way, the insurance business is demonstrating its ability to meet the health care needs of the public," said Mr. Williams in an address before the Accident and Health Club of New York.

Another demonstration of this ability came in 1958, declared Mr. Williams, when it was estimated that insurance companies paid benefits on 9.5 million claims for hospital expenses, almost 45% of the 21.6 million admissions to voluntary hospitals during the year.

There have been recent significant advances in the field of group insurance, said the speaker, with the introduction of comprehensive major medical insurance, long-term disability programs, the extension of coverage to employee groups of 10 persons or less, and the expansion of health insurance plans to include retired persons. He noted that there is now experimentation going on in the group insurance field toward coverage for dental care.

Especially significant, Mr. Williams declared, has been the coverage of nervous and mental disorders, both in and out of the hospital, by the vast majority of basic and major medical group insurance contracts. He pointed out that the health insurance business has led the way in this particular field.



The speaker said advances now being made in extending health insurance to retired employees, by various methods of contract conversion, would do much within the next few years to increase progress in the protection of older age citizens.

In the individual insurance field, Mr. Williams cited the recent introduction of senior citizen programs giving hospital and surgical protection to older aged persons without regard to age, sex, or condition of health. These and similar such programs, he said, have proven the flexibility of the health insurance business.

Within the past decade, there has been a distinct trend by insurance companies toward more permanent individual policy protection for the public, said Mr. Williams. As an example, he cited the rapid growth of guaranteed renewable hospital and surgical insurance policies during this period.

Individual policy protection for persons with impaired conditions, including lifetime protection in some cases, has made significant advances in the last five years, said Mr. Williams. Such previously uninsurable persons are now even eligible for guaranteed renewable major medical policies.

The insurance business must do more than develop new health insurance programs that cover a growing proportion of the nation's population, said the speaker.

"It is not enough to change for the public good—we must be sure that the public knows we change and do so with the public interest in mind," Mr. Williams said. "By these actions—which we are following today—the public can and will better understand our business and in a favorable light."

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**1,100 Persons Help Set Association's Policy**—The American Medical Association's broad activities for helping to improve the nation's well-being "sprout from a tree measuring a figurative 1,100 people high," according to the Association's October 10 Journal.

These persons, many of whom serve in weekend and late night sessions, donate as many as 100 hours yearly to the Association. None is on the A.M.A. payroll.

"The volunteering M.D.'s (and Ph.D.'s and LL.D.'s and B.A.'s too) range in name from A to Z and come from all 50 states," the Journal article said. "Their talents enrich 13 A.M.A. councils, more than 100 committees, 20 sections of the Scientific Assembly, 10 specialty journals, and approximately a dozen liaison groups with other organizations."

In addition, there are members of the Board of Trustees and the House of Delegates, the group who makes the final policy decisions for the A.M.A.

**Physician Urges Better Medicolegal Relations**—Revision of the law to keep pace with scientific and medical progress has been called for by a California specialist in legal medicine.

Writing in the October 10 Journal of the American Medical Association, Dr. LeMoyne Snyder, Paradise, Calif., said, "In large measure our laws continue to be hostile to medical jurisprudence.

"Britain during the 19th century made great advances in this field and established chairs of legal medicine in all of its leading medical schools. However, in the United States, in only a few places have the states yet made any demand for competent medical experts to come to the aid of the law."

He was especially critical of the coroner system, which has survived almost unchanged from the English monarchy of the Middle Ages before the days of the Magna Carta and the crusades. Coroners rarely possess either medical or legal knowledge, "which would seem to be a basic requirement," he said.

A part of this system is the outmoded coroner's inquest—a tribunal in which a jury of six persons is charged with the determination of the cause of the death and naming of the person responsible.

"Generally the first six persons on the nearest park bench are chosen and they take a quick glance at the remains through an open door and listen to what evidence the coroner has at hand," he said. "This procedure seems to be founded on the theory that ignorance multiplied by six equals intelligence."

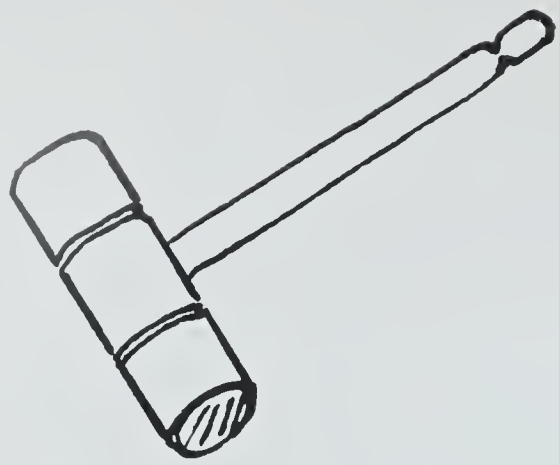
Too many other purely scientific matters are being decided by public forums and political processes, he continued. For instance, a city wants to improve the health of its people by adding fluorine to its water supply. This is a question which has long since passed from the realm of scientific dispute, yet the matter is generally decided on the basis of letters to the editors.

Dr. Snyder noted that some advances are being made. Some states have instigated the medical examiner system in place of the coroner system. Psychiatry is having an effect on law. The 100-year-old test for sanity—that at the moment of the crime, the accused had a sufficient degree of reason to know he was doing an act that was wrong—already has been replaced in New Hampshire and the District of Columbia. In 1954 the United States Court of Appeals for the District of Columbia ruled "that the accused is not criminally responsible if the unlawful act was the product of mental disease or mental defect."

All of the multiplicity of branches of scientific medicine are advancing at a headlong rate. Diagnostic and surgical procedures which are commonplace were undreamed of only 10 years ago.

"Slowly but surely the laws are being molded to make use of this vast expanse of scientific knowledge in the administration of justice," Dr. Snyder concluded. "As people generally become aware of these advances the laws ultimately have to conform to encompass and use new and more reliable information. Laws never create public opinion, but laws sooner or later always have to conform to public opinion. . . . Science has provided the tools, it is up to society to see that the law uses them."





# President's Page

## SEVENTY YEARS AGO

7 HERE was a time when an oration was a feature of the annual meeting of the Association. In 1889 the orator was Dr. Ruffin Coleman of Birmingham, and his theme, The Higher Education of Women. In the light of the varied occupations in which women are engaged now, it is interesting to review some of Dr. Coleman's comments.

"I am aware that there is much opposition to the views I shall lay before you as to woman's claims to all the rights, privileges and immunities of higher mental development, and the common benefits that will arise therefrom. Public opinion generally is against me, and our profession has ever been in an attitude of persistent hostility to the admission of woman into the higher learning and professions. I shall not, therefore, be awry with any one who repudiates my views. Be assured, too, that it is not from any defect in my esteem of my honored profession that I deem woman worthy to enter its sacred precincts. I yield to no one in reverence to our high calling, and its noble followers. I know that it is a science affording unbounded scope to the most enlightened and far-reaching mind; that it is a career of work and worry; that it demands uncomplaining devotion to duty seldom equalled in any liberal calling. 'Its ordeals are singularly trying: the first introduction into the dissecting room; the first lessons in the operating theatre; the first performance of a postmortem operation; the first visit in case of infection; the night and day of toil; the intimate conversance with human misery, mental and physical, in all its most terrible forms; the implicit trusts and confidences that have to be received and maintained with a watchfulness that knows no limit.' Still, despite all these hard prerequisites, I maintain that woman is easily able to bear the burden even on to the highest point of success, not only in our profession but in all spheres of intellectual endeavor.

"It is argued that a wide disparity exists between woman's physical strength and endurance on the one hand and, on the other, the intense strain and outlay of nervous energy requisite for the higher walks of scientific and professional life; it is gravely assumed that the higher intel-

lectuality can be won only by the sacrifice of physical robustness, and, upon the promise of such untoward results, most dire consequences are foreboded touching the perpetuation and character of the human race.

"Far be it from me to do violence to the tenderest ideal of womanly loveliness, purity, modesty, sanctity. Still, I do not appreciate that one hair's breadth of this fairness will be yielded by a little wholesome labor, or a little mental elevation. I have yet to see a lady less a lady for earning money; she forfeits not a whit of esteem, but rather gains in worthiness by earning a state of independence and self-support. To equal man, she need not ape him nor necessarily grow mannish. In a larger and more public sphere, her truth will grow stronger with strength; her purity grow positive instead of negative, and her gentleness be purged of its weakness.

"It is a cruel respect that demands of a woman to starve merely for conformity to a false standard of feminine deportment established by society under circumstances and environments entirely at variance with the condition that confronts woman today.

"Would we rear a hardier and more robust manhood? Would we elevate the intellectual and moral tone of each succeeding generation? Woman holds the key. But whether or not the portal shall be opened upon this roseate future, which we all most earnestly hope for, will be determined in a large part by the attitude of the medical profession, both in its advice and in its supervision. The good that will accrue to the human race from such a consummation will far outreach all the benefits of pills and potions. In justice, then, to woman's inalienable rights to freedom of choice; and in justice to her many intellectual triumphs in the past; in behalf of her own physical and mental elevation, and in behalf of the infinite good that will ensue for the entire human family from this elevation, I hold that woman should be admitted to all the higher privileges of academic and professional life."

*W. R. Carter*





## ORGANIZATION SECTION

### COMMITTEE ON INSURANCE

The Association's accident and health and professional liability group insurance plans were discussed at a meeting of the Committee on Insurance on Sunday, September 20, in Montgomery.



Members of the Committee on Insurance and representatives of Liberty Mutual Insurance Company are shown taking a tour of the new MASA Building during a recent meeting in Montgomery. They are (left to right) Dr. B. M. Carraway, Dr. C. A. Lightcap, Dr. J. O. Morgan, Committee Chairman; Leslie G. Walker, Liberty Mutual; Dr. J. H. Baumhauer, and Frank McCoy of Liberty Mutual.

Meeting with Chairman J. O. Morgan and Committeemen J. H. Baumhauer, B. M. Carraway and C. A. Lightcap were Messrs. Leslie G. Walker and Frank McCoy, representatives of Liberty Mutual Insurance Company.

In discussing the Association's professional liability policy with the Liberty Mutual representatives, it was pointed out that certain coverages that had been agreed to through administrative decisions are not stipulated in the master policy. The insurance representatives agreed with the committee that an interpretation endorsement which would spell out the responsibilities of the company, as agreed to in administrative decisions, should be added to the master policy.

On the matter of public liability coverage, Dr. Lightcap pointed out that it is recommended that public liability and professional liability policies be purchased from one company in order to prevent any "gray area" of coverage which might occur if the two policies were written with two different companies. Mr. Walker said that his company would be interested in underwriting both policies, that he would furnish the committee with rates and coverage of a public liability policy, and that there might be a possibility of getting some reduction in rates on the public liability policy.

Dr. Lightcap then stated that he felt it would be advisable to have a uniform anniversary date on both group policies presently held by the Association. Mr. Walker explained that his company was presently effectuating such a plan with the anniversary date as September 15.

The committee then discussed the Jefferson County Medical Society's group catastrophic illness policy which carries a \$10,000 maximum payment. The policy, according to Dr. Carraway, covers all hospital costs and up to 75 per cent of the nurses' charges. Dr. Carraway recommended that the Jefferson County policy, written by Continental Casualty Company, be extended to cover all members of the Association; and that the Committee on Insurance recommend such a policy to the Association at its next annual meeting. The recommendation was passed by the committee. Mr. Walker told the committee that he would ascertain whether or not Liberty Mutual would be interested in writing such a policy for the Association. If so, he said, he would supply the committee with rates and coverage information.

### COMMITTEE ON LEGISLATION

Members of the Committee on Legislation met in Montgomery on Sunday, September 27, to consider pending legislative acts and ones that have recently been introduced in both houses.

Meeting with Chairman M. Vaun Adams were Drs. W. D. Anderson, Douglas L. Cannon, D. G. Gill, E. L. McCafferty, Jr., Lucian Newman and E. L. Strandell.

Dr. Adams opened the meeting by asking for suggestions on how committee actions could be more effectively used in support, or in opposition, to bills considered by the group. After discussion,



it was moved by Dr. Strandell, seconded by Dr. Anderson and passed, that a letter stating the committee's action be sent to each member of the House and/or Senate Committee considering any bill or bills which have been considered by the Association's Committee on Legislation. Dr. Cannon suggested that the letter should be phrased in such terms as "the physicians of Alabama through their State Medical Association" so as to lend additional weight to the stand.

The Executive Secretary reported on the status of bills previously considered by the committee. They were as follows:

H. B. 489 (Compulsory polio shots) is still in committee and has been assigned to a subcommittee. In conjunction with this bill, it was reported that twenty County Boards of Health had reported in favor of the bill and seven, including Jefferson and Mobile, had opposed it.

H. B. 231 (Treatment of tuberculosis in prisoners) is still in committee.

H. B. 425 (Viewing of dead bodies by signers of death certificates) is still in committee but will probably have a substitute, which places responsibility on the coroner, reported favorably.

H. B. 336 (Additional fees for Vital Statistics Bureau) has passed the House and is in committee in the Senate.

H. B. 227 (Blood labeling by race of donor) has been favorably reported by the House Committee on Health, and is on the calendar in the House.

H. B. 157 (Outlawing naturopathy) has been passed by the House, and is in committee in the Senate.

S. B. 61 (Medical scholarship changes) has been passed by both Houses and forwarded to the Governor for his signature.

H. B. 629 and H. B. 630 (Appropriations to basic science and healing arts boards) were killed in committee when it was explained by the State Budget Officer that the boards could apply after October 1 for a loan from the Governor's Contingent Fund.

The committee then considered new bills which have been introduced into the Legislature. After discussion of each, the following actions were taken:

H. B. 620 (Revision of dental appropriations) was approved on motion by Dr. Cannon, seconded by Dr. Newman.

H. B. 666 (Cancer appropriation) was endorsed on motion by Dr. Cannon, seconded by Dr. Strandell.

H. B. 804 (Appropriation for hospital and nursing home inspectors) was approved on motion by Dr. Anderson, seconded by Dr. Cannon.

H. B. 609 (Permitting county governing bodies to appropriate money for old age programs) was approved on motion by Dr. McCafferty, seconded by Dr. Cannon.

H. B. 773 (A constitutional amendment allowing parts of counties to tax themselves for hospital purposes) was approved on motion by Dr. Newman, seconded by Dr. Gill.

H. B. 746 (Making the State Health Officer elective by the voters) was disapproved and opposed, the motion being made by Dr. Anderson, seconded by Dr. Strandell.

H. B. 758 (Sale of lands situated in Mt. Vernon Barracks Military Reservation) was conditionally approved if Dr. Tarwater approves, the motion being made by Dr. Cannon, seconded by Dr. McCafferty.

H. B. 759, 760, 761, 762, 763, 764, 765, and 766 were considered as a package. It was moved by Dr. Cannon, seconded by Dr. Strandell and passed, that it is the judgment of this committee that endorsement at this time should be limited to an increased per diem for patients in the Alabama State Hospitals for the Insane and the Partlow State School, and to an appropriation for additional funds for the Medical College for a training program in the field of mental health, including hospitalization of medically indigent mental patients who are residents of this state.

It was reported to the committee that the American Medical Association will hold a legislative conference in St. Louis on October 2 and 3 for the purposes of discussing a program for national legislation. The chairman of the Committee on Legislation, the chairman of the State Board of Censors, and the Executive Secretary will represent the Association at this meeting.

The committee was informed that Dr. John A. Martin had requested it to consider a law comparable to the one which has been passed in South Dakota declaring that information gathered by medical bodies for the purpose of reducing morbidity or mortality may not be used as evidence in court. The Executive Secretary was instructed to secure a copy of the South Dakota law and one of the Minnesota law on which it was based.

The Executive Secretary was also instructed to write letters of appreciation to Legislators Tom Bevill, M. B. McLendon, and G. F. Bailey and to inform the local county medical societies of the support which these men have given the Association in its legislative program.

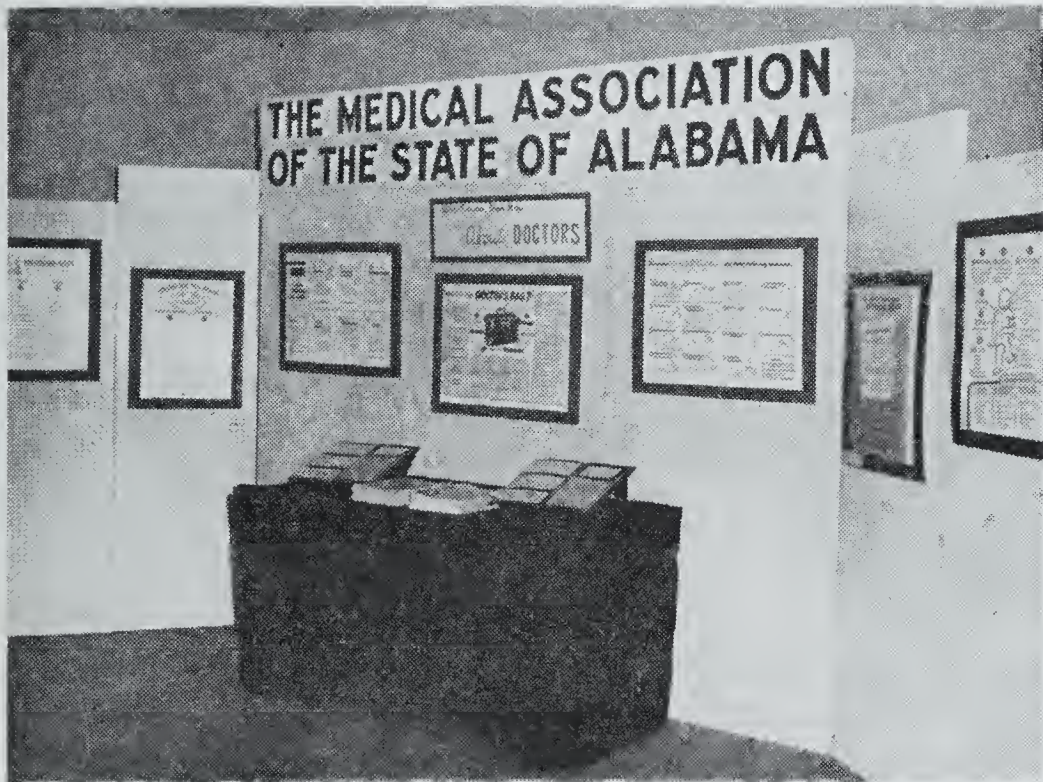


STATE FAIR EXHIBIT

"What everyone should know about doctors" was the theme of the Association's fair exhibit this year.

The exhibit was displayed under the direction of the Committee on Public Relations at the Birmingham, Montgomery and Mobile state fairs.

The theme of the three-panel exhibit was based on a brochure prepared for the American Medical Association by the Channing L. Bete Company of Greenfield, Mass.



STATE FAIR EXHIBIT

The left hand panel depicted the standard tests that doctors make in testing for various diseases, and a chart showing standard results of these tests.

A series of drawings on the center panel depicted the different stages of training a doctor must complete before taking his state medical examinations and specialty training. In the middle of this panel was a large drawing of a doctor's bag with a listing of the usual contents. Also on this panel was a chart listing the specialty practice of medicine and the area of medicine in which each specialist practices.

The right hand panel was devoted to why physical examinations are necessary and of what a physical examination consists.

On a table in front of the center panel were two answer and question Kardex portfolios that contained the twenty-five most important questions usually asked by laymen.

**Graduate Medical Training Shows Great Increase—**  
A remarkable post World War II increase in graduate medical training programs for physicians is described in the 33rd annual report on graduate medical education in the United States, prepared by the American Medical Association's Council on Medical Education and Hospitals.

The report's figures showed over 37,000 physicians taking graduate training in 1958-59. There has been a 50 per cent increase in available internships and a 500 per cent increase in residencies from 1941 to 1958.

The report, appearing in the October 10 A.M.A. Journal, attributed the marked expansion in the immediate postwar years to the desire of young physicians to secure specialty training after being discharged from military service.

Information in the report and an accompanying directory of approved internships and residencies help recent medical graduates plan further training, and aids administrators concerned with broad aspects of graduate medical training.

In 1941, there were 8,182 internships, the report said. In 1958-59, there were 12,469, an increase of 2,271 over 1957-58. In 1941, there were 5,256 residencies. By 1958-59, this figure had increased to 31,818, up 6,842 over 1957-58. The number of hospitals offering training stood at 1,435 in 1958-59, an increase of 35.

The number of unfilled available internship positions remained at only 17 per cent. Sixteen per cent of the residency positions were unfilled compared to 18 per cent in 1957-58, the report added. It also stated that the average number of intern positions for each hospital is 14.6, the highest in the past ten years.

Internship positions mixed in several medical fields were 93 per cent filled; straight internships were 85 per cent filled. Rotating internships, which must include training on the medical, surgical, pediatric and obstetric services, were 83 per cent filled. As in previous years, straight internships in internal medicine showed the highest rate of occupancy—88 per cent, the report said.

The report also showed:

—Nongovernmental hospitals offered 78.8 per cent of the available internships; federal hospitals, 4.5 per cent; nonfederal hospitals, 15.5 per cent, and private hospitals, 1 per cent.

—The highest occupancy rate, 93 per cent, was in federal hospitals. Private hospitals had the lowest rate, 75 per cent.

—Only 44 per cent of the positions offered in the Veterans Administration were filled. Internships in the uniformed services had almost 100 per cent occupancy.

—Hospitals in the New England area had 90 per cent of their internship positions filled on Sept. 1, 1958. As was true in past years, New Jersey, New York, and Pennsylvania are responsible for more than one-fourth of the internship training in the country.

In residencies by specialty, the report showed surgery offering the largest number of positions, followed by internal medicine. Psychiatry held third place.

These three plus pathology and obstetrics and gynecology accounted for approximately two-thirds of all the residency positions offered.

ANNUAL SESSION

MOBILE

APRIL 21, 22, 23, 1960





## ASSOCIATION FORUM

### COMPREHENSIVE MEDICAL INSURANCE A STUDY OF COSTS, USE, AND ATTITUDES UNDER TWO PLANS

A fundamental problem facing voluntary health insurance today is to find ways of expanding its range of benefits to cover services outside the hospital, such as physicians' services in the home or office, according to a recent survey conducted by the Health Information Foundation. The costs of these services may be high and, therefore, unless covered by some form of insurance, difficult for some families to meet, the survey revealed.

The survey also shows that efforts are being made to broaden benefits by the introduction of a number of newer types of coverage. In New York City, according to the Foundation studies, two voluntary health insurance plans have for some time provided subscribers with physicians' services, not only in the hospital but also in the home and office, although under contrasting arrangements. One of these plans—Group Health Insurance, Inc. (GHI)—arranges for services with physicians practicing out of their own private offices. It offers free choice of any physician in New York City, paying a fee for each service on the basis of a fee schedule. The other plan—Health Insurance Plan of Greater New York (HIP)—provides enrollees with physicians' services in thirty-one medical group centers in the New York City area, paying these groups on a capitation basis.

Although contrasting in their methods of providing physicians' services, GHI and HIP cover a similar range of services: Both cover physicians' services in home, office or hospital, as well as laboratory, diagnostic, and certain other services, differing only in minor details. Moreover, for hospital care both GHI and HIP enrollees are covered by Association Hospital Services (Blue Cross) with the same range of benefits. Neither GHI nor HIP covers drugs and medicines outside the hospital, medical appliances, or dental care.

Each plan (together with hospital insurance) was found to meet an average of one-third of the gross costs of all personal health services in a selected group of its subscribers. The plans were also quite similar regarding subscribers' utiliza-

tion and costs of services outside the hospital (physicians' services, drugs and medicines, and dental care) in these selected groups. But the two groups of subscribers differed markedly in their average utilization and costs for hospital care and surgery, as well as in attitudes toward the plan and its physicians.

#### METHOD OF STUDY

The subscribers whose experience and attitudes were studied were selected from the membership of three labor unions—the Dress Joint Board of the International Ladies Garment Workers Union, the International Association of Machinists, and the Office Employees Union. As part of their contracts under collective bargaining, individual members of these unions had been offered a choice of enrollment in either GHI or HIP, and had selected one of these organizations.

Samples of GHI and HIP subscribers—419 in GHI and 422 in HIP, representing 838 and 841 covered household members, respectively—were drawn from the membership of these unions. The samples were matched for age, sex, and family size and were comparable for educational level, occupation, and other pertinent characteristics. In general, members of the three unions are engaged in semi-skilled, skilled, and white-collar occupations. In comparison with the population of New York City they have few members in the unskilled low-income or relatively high-income business and professional groups.

Interviews were conducted during the summer and fall of 1957 in the homes of the union members. They covered these subjects: utilization and costs of all personal health services for the twelve months prior to the interview; reasons for selecting GHI or HIP; and views of experiences with physicians. In addition to the interviews, utilization and cost data were obtained from the claims records of GHI, HIP, and Blue Cross.

Because GHI physicians are paid a fee for each service, while the income of individual physicians in HIP groups is determined by the partners and comes from the capitation pool, the comparison between costs of physicians' services to members in each plan required the assignment of dollar



values to services provided by HIP physicians. These dollar values were assigned as follows: Average physicians' charge reported by GHI patients for various categories of services were applied to similar units of physicians' services reported by HIP patients. (Since the survey was designed, among other objectives, to show patterns of similarity or difference between GHI and HIP enrollees in use and costs of personal health services, the absolute dollar amounts of costs are important only as they reveal such patterns. They should not be used for actuarial purposes.)

#### FINDINGS: COST OF SERVICES

The GHI and HIP enrollees interviewed in this study showed remarkably similar patterns in gross costs incurred per person for all personal health services during the year preceding their interview. Thus, 5 per cent of the GHI enrollees incurred no costs, compared to 6 per cent of the HIP enrollees. For costs ranging from \$1 to \$49, the comparable per cents were 29 and 30, respectively, and for \$50 to \$99 the figures were identical at 23 per cent for each group. At the \$300-or-over level, the per cents were 15 and 12, respectively, a difference possibly due to chance.

By category of service, gross costs were similar in each group for total physicians' services, physicians' obstetrical services, office surgery, drugs and medicines, and dental care. Major differences were that gross costs were higher among GHI enrollees for hospital care and surgery.

For total physicians' services, the distribution of gross costs per person was virtually identical for the two groups. Thus 26 per cent of all GHI enrollees incurred no gross costs for physicians' services, against 27 per cent for HIP enrollees. For low costs (\$1-\$49) the respective per cents were 49 and 47; for high costs (\$300 or over), 3 per cent each.

The pattern of gross costs incurred by the two groups of subscribers differs in some respects from that of insured populations in other surveys, carried out in 1953 with similar methods and definitions, and also sponsored by Health Information Foundation. These populations, covered against the costs of hospital care and physicians' services in the hospital, were: 1. insured by Blue Cross-Blue Shield in Birmingham, Alabama; 2. the same in Boston; 3. employed groups insured by Aetna Life Insurance Company in Boston; and 4. insured families in the U. S. (national sample).

Hospital care and physicians' surgical services, as reported in this survey, represented significantly smaller proportions of the total gross of HIP enrollees than in the other groups, including GHI. Thus, hospital care accounted for 9 per cent of HIP enrollees' gross costs, compared to per cents rang-

ing from 18 to 24 in the other groups; for surgery the comparable per cents were 4 for HIP and 8 for others. But gross costs in HIP were proportionately higher in drugs and medicines, dental care and, less sharply, physicians' care other than surgery or obstetrics.

A common criterion of the effectiveness of insurance is the extent to which the benefits actually meet the costs of services. In the four populations cited above, insurance plans covering hospital care and physicians' services in the hospital met the following average per cents of subscribers' annual gross costs for all personal health services in 1953: Birmingham, 20; Boston, 27; Aetna, 31; and the national sample, 19 per cent.

In contrast, GHI and HIP, each providing coverage against virtually all physicians' services, whether rendered in home, office or hospital, and against hospital costs through Blue Cross, together with Blue Cross met approximately one-third of the total costs—34 and 35 per cent, respectively. Thus, GHI and HIP met larger proportions of the health costs of their subscribers, especially compared to Birmingham and the national sample. Their advantage over Boston and Aetna was less marked, essentially because hospital care, a covered service for all of those insured populations, represented a much larger proportion of total gross costs in Boston and Aetna. The uncovered services constituted much smaller proportions of their total medical bills.

Considering gross costs only for the major categories of services which these two plans cover in their benefit structures, HIP met larger per cents than GHI for the total and within each category of service. For example, HIP met 80 per cent of enrollees' costs for all physicians' services against 59 per cent for GHI. In other words, HIP enrollees were paying directly 20 per cent of their gross costs for physicians' services, while comparable per cent for GHI enrollees was 41.

For HIP enrollees, this 20 per cent represents services received from physicians outside HIP. For GHI enrollees, the 41 per cent arises in this way: Physicians who sign participating agreements with GHI have agreed to accept GHI fees as full payment for home and office calls and other specified services, and for services to patients in wards or in semi-private rooms in hospitals. But physicians who have not signed participating agreements with GHI are not bound by the GHI fee schedule. GHI will pay any physician, whether participating or not, who renders service to GHI patients, but only the amount stipulated in the fee schedules. Thus the 41 per cent represents mainly the difference between fees actually charged and the fee schedule.



The average utilization of services differed in some respects between GHI and HIP subscribers, closely reflecting their differing gross costs by category of service. GHI enrollees used more hospital care and surgery than HIP enrollees, but in their use of physicians' services (exclusive of surgery and obstetrics) the two groups were about the same.

Thus GHI enrollees had 11.0 hospital admissions per 100 persons against 6.3 for HIP, and they spent 87 days in the hospital per 100 persons compared to 41 for HIP. They had 7.6 hospitalized surgical procedures per 100 persons against 4.3 for HIP, and 10.1 non-hospital surgical procedures against 7.3 for HIP. Almost identical proportions (26 per cent for GHI, 25 for HIP) made no visits to physicians (exclusive of surgery and obstetrics) during the year; and the mean number of visits for the two groups was also very close (6.0 and 5.5, respectively).

#### ATTITUDES TOWARD THE PLANS

In addition to obtaining data on costs, benefits, and utilization in the two groups, this survey attempted to determine whether there were significant differences in attitudes between GHI and HIP enrollees. The major subjects covered were these: attitudes toward their health and the costs of services; reasons for choice of GHI or HIP; and attitudes toward their plan and its physicians.

As between the two groups, subscribers reported quite similar attitudes about their own health and that of their family members. Also similar, with one significant exception, were attitudes about the costs of the items of daily living and the costs of the components of medical care. The one difference was that a larger per cent of HIP enrollees felt that the costs of physicians' services were "much too high." This difference in opinion existed despite the fact that somewhat the same proportions in both groups had experienced costs of illness exceeding \$1,000 prior to joining.

Significant differences were also found in their chief reasons for choosing either GHI or HIP. Over half (61 per cent) of HIP enrollees gave "nothing to pay" as their chief reason for choosing that plan while GHI enrollees overwhelmingly (88 per cent) gave "free choice of doctor" as their chief reason.

At the time of the survey, enrollees in the two groups had belonged to their plans for one to one and one-half years. Before joining their plans, 11 per cent of the GHI and 23 per cent of the HIP enrollees had had no regular doctor. Since joining, 8 per cent of the GHI enrollees reported that they had changed their doctor. For HIP enrollees the comparable figure was 46 per cent, while 29 per cent still regarded their former doctor as their regular one.

Against this background, GHI enrollees were

more satisfied with both the plan and its physicians. In GHI, 90 per cent were "entirely satisfied" or "fairly well satisfied" while for HIP the per cent was 79.

Specifically toward physicians, GHI enrollees were again more satisfied than HIP enrollees in their responses to all questions about physicians' behavior toward patients. These questions concerned personal interest in the patient, amount of care taken to explain what the trouble really was, waiting in the office, and degree of consideration for patients by office personnel.

Different ways of organizing and paying for medical care, as represented by GHI and HIP, will continue to play important roles in the evolution of medical care and insurance in this country. All methods need careful study. If cost is the chief criterion of the type of plan from which to purchase services, then the choice is not difficult. If patient satisfaction is the chief criterion, again the choice is clear.

But there are other criteria not covered in this study which bear on the choices made: quality of care, physician satisfaction, first-dollar and/or high-risk coverage, and continued assurance that money will be forthcoming in adequate amounts to permit the application of new medical discoveries and techniques, experimentation with different methods of providing services, and recruitment of high-quality health personnel in sufficient numbers.

#### MEDICAL EDUCATION

In order to ascertain whether sufficient qualified doctors are being produced to meet the needs of America's rapidly growing population, Representative Clark W. Thompson of Texas prepared seven questions dealing with medical education and submitted them to Dr. F. J. L. Blasingame, Executive Vice President of the American Medical Association.

Dr. Blasingame's reply to these questions was read into the Congressional Record of the 86th Congress of the United States by the Honorable Clark W. Thompson "in order to help eliminate certain misconceptions about the medical profession."

Dr. Blasingame's letter, as it appears in the Congressional Record, is printed below.

AMERICAN MEDICAL ASSOCIATION  
CHICAGO, ILL.  
APRIL 16, 1959

Hon. Clark W. Thompson  
House Office Building  
Washington, D. C.

Dear Congressman Thompson:

Thank you for your recent letter and your interest in medical education.

It is indeed a pleasure to bring you an up-to-date report on the status of medical education in



the United States. As you know, I am proud of the accomplishments of our medical schools and have great faith in their ability to train enough physicians to meet the needs of our growing population.

You asked seven important questions about the medical education picture. Let me answer them one by one.

First, has the number of physicians graduated from approved medical schools kept pace with the growth of the Nation's population? Over the long haul, the increase in medical graduates is much greater proportionately than is the increase in the population. From 1920 to 1958, the percentage of increase in medical graduates from approved schools was 125 per cent, compared with a 64-per cent increase in population. In the past 20 years, the percentage figures are fairly comparable: 32.1-per cent increase for medical graduates; 33.4-per cent increase for population.

The future, I believe, looks bright. Each year, for the past 11 years, the number of students enrolled in approved medical schools has increased. This boost in enrollment amounts to 29.6 per cent (from 22,739 to 29,473).

Your second question was whether medical schools seek to restrict the number of medical students. Two factors make it necessary for a school to establish an arbitrary top enrollment figure: facilities and budgetary funds available to operate the school. Each school faculty determines the number of students who can have a sound education with the faculty personnel and the facilities available to the school.

Medical education is a graduate educational experience following the completion of the regular college course, and because of the subject matter covered requires individual and small group instruction. To turn out well-trained, highly-qualified physicians the school requires a large faculty of skilled educators, plus sufficient teaching and research laboratories, hospital beds and clinical patients. The number of students that can be taught must be necessarily restricted to fit the facilities so that the emphasis can be on quality of the graduate rather than on the quantity of students.

Third, you asked: What is the ratio between applicants to medical schools and those accepted? The answer is 1.97 (15,791 applicants for first year medical school to 8,030 places available). This ratio has remained about the same for the past 5 years.

Incidentally, a common confusion that arises in discussing applicants to student ratio is mistaking applications for people (applicants). Each person applies, on the average, to four medical schools. Thus, for the 1957-58 academic year, the 15,791 applicants filed a total of 60,946 applications.

Next, you asked if it is true that only students with an A college academic record are accepted into medical school. That has never been true. About one-sixth of the entering medical students for the whole country have A college records; about two-thirds have B records and about one-sixth have C records.

Your fifth question was: Is the number of medical schools increasing in the United States? In 1944, there were 77 approved medical schools, including eight 2-year schools from which students had to complete their final 2 years of medical education in any of the 69 4-year schools. In 1958, there were 85 approved medical schools. Eighty-one are 4-year schools; only four 2-year schools.

Two other schools are under development. As a step toward still further expansion of medical school facilities, the American Medical Association last year urged "institutions of higher education where medical education has not been undertaken in the past to give serious consideration to the development of opportunities in the field."

Sixth. Has the American Medical Association anything to do with the number of enrollments in medical schools? Enrollments are strictly determined by each individual medical school. Neither the universities nor their medical schools would permit an intrusion into their academic freedom by a national professional association.

Your final question asked whether I think it is necessary for Federal funds to be provided for medical schools. The medical profession welcomes one-time Federal grants for medical school construction and renovation as well as Federal grants for basic research. The profession has been opposed to continuing Federal aid for operating expenses because of the potentialities therein for Federal control.

I should like to point out that the National Fund for Medical Education, which raises funds from industrial sources, and the American Medical Education Foundation, which raises funds from the medical profession, have made grants in excess of \$10 million to medical education over the past 8 years.

I hope this information will aid you in analyzing bills introduced in the 86th Congress which pertain to the training of physicians. As further background, I am sending along a copy of the most recent annual report prepared by our Council on Medical Education and Hospitals, which was published in the Journal of the American Medical Association, November 15, 1958. It provides additional data that you might find useful.

I am happy that you wrote me after conferring with our mutual friend, Dr. John Truslow. If I can provide any additional information, please make your wishes known.

Sincerely yours,  
F. J. L. Blasingame, M. D.



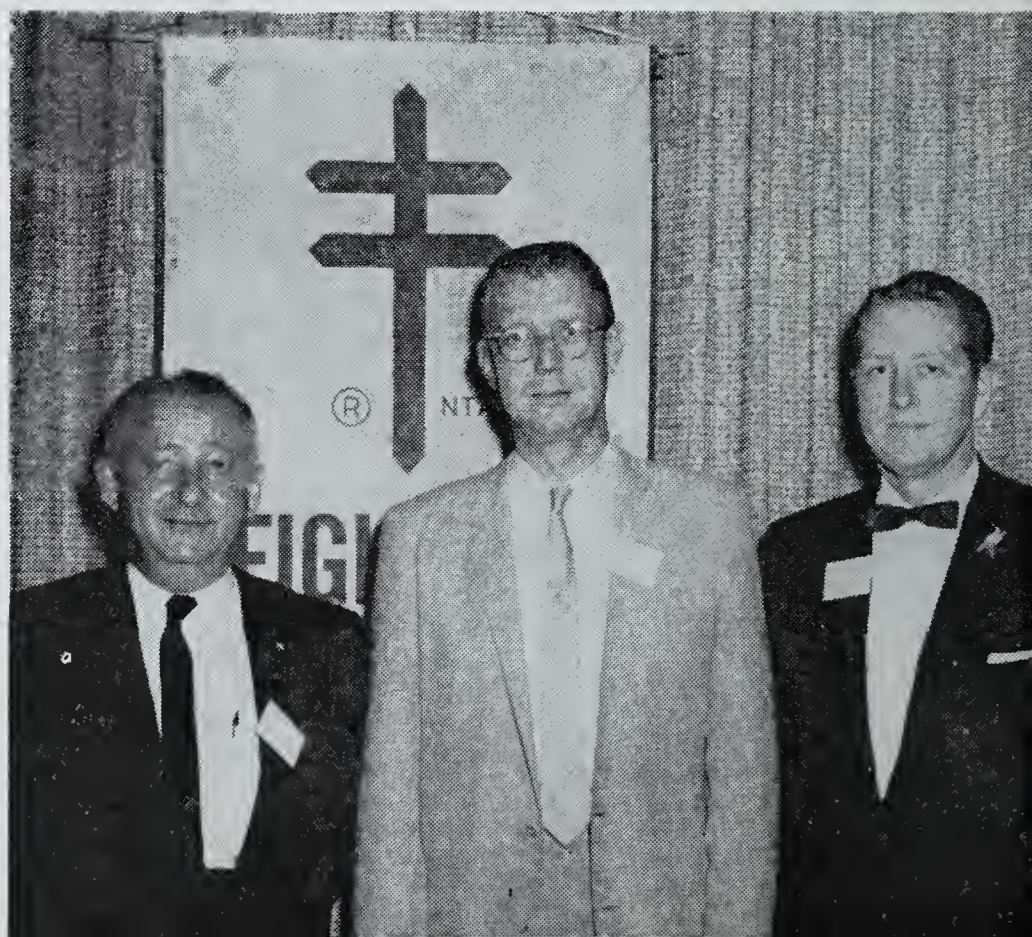


# around the state



←PAST PRESIDENT—Dr. William J. Donald of the Alabama Trudeau Society, left, is shown commending Dr. H. McLeod Riggins, right, president of the National Tuberculosis Association, on his speech at the annual meeting of the Society in Birmingham.

TB CRUSADERS—Physicians elected to carry on Alabama's fight against tuberculosis are: below, left to right, Dr. S. S. Romendick, Mobile, vice president; Dr. Charles R. Kessler, Birmingham, president, and Dr. Ira L. Myers, Montgomery, secretary-treasurer, of the Alabama Trudeau Society.





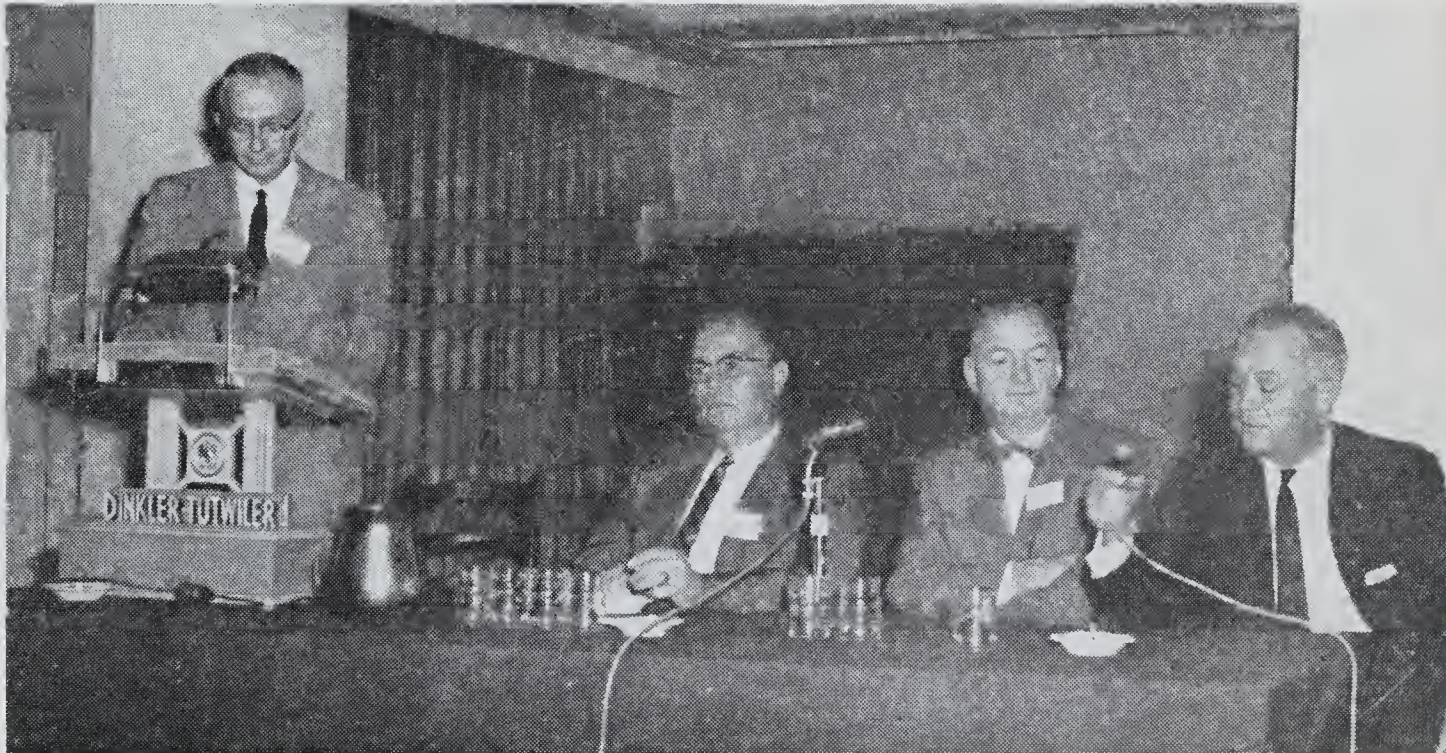


**LEDERLE PARTICIPANTS**—Mr. Gerald Egelson, left, manager of Lederle Laboratories' education services, and his assistant, Miss Matilda Janis, are shown chatting with Dr. Winston A. Edwards, president-elect of the Alabama Academy of General Practice, at the Symposium On Modern Clinical Medicine which was co-sponsored by AAGP, Medical College of Alabama and Lederle Laboratories.

**WELCOME, ALABAMA STYLE**—Giving a greeting to Floridian Leo M. Wachtel, president-elect of the Florida Medical Association, is W. J. B. Owings, president of the Alabama Academy of General Practice. Dr. Wachtel was the luncheon speaker at the symposium.



**SYMPOSIUM SPEAKERS**—Dr. Donald A. Covalt, Bellevue Medical Center, far right below, discusses practical rehabilitation of the hemiplegic at the symposium's opening session which was moderated by Dr. Howard L. Holley, standing, Associate Professor of Medicine of the Medical College of Alabama. Other panel participants were Dr. J. Lamar Callaway, Professor of Dermatology and Syphilology, Duke University, and Dr. Henry F. Page, Instructor in Medicine, University of Pennsylvania. Left below: Dr. Benjamin V. Branscomb, Assistant Professor of Medicine, Medical College of Alabama, moderator of the afternoon session is pictured with Dr. Edmund L. Dubois, Assistant Clinical Professor of Medicine, University of Southern California Medical School, and Dr. Robert Austrian, Professor of Medicine, State University of New York.







## MEDICAL CENTER NEWS

### LUTHER LEONIDAS HILL HEART CENTER

Since 1930, great advances have been made in the treatment of diseases of the heart and blood vessels. Surgical efforts in this field are necessarily in the direction of a physiologic alteration as the heart cannot be removed. Intensive research in this area fostered the development of electronic devices for more effective physiologic research. It became obvious that the older type of operating room, designed as laboratories for anatomy and pathology, would have to be redesigned as physiologic laboratories, if the accomplishments of research were to find practical application in the treatment of patients.

In 1955, the Heart Institute of the National Institutes of Health was asked to assist in the design and construction of such a unit at the Medical Center. After review of local facilities by a team of scientists and physicians, an initial appropriation of \$164,675 was allocated for this purpose. Another \$100,000 was made available for equipment by the Office of Vocational Rehabilitation. The Alabama Heart Association and individual philanthropists have generously supported continuing research in this area.

Today, the University of Alabama Medical College's cardiovascular unit is one of the leading heart surgery centers in the country.

On October 18 the unit was officially named the Luther Leonidas Hill Heart Center in memory of the late Dr. Hill of Montgomery.

### MEDICAL CENTER MEDICS ADVANCE HEART METHODS

A major advance in the diagnosis of congenital heart defects by means of a hydrogen-sensing platinum electrode has been reported by scientists at the University of Alabama Medical Center.

Dr. Champ Lyons, professor of surgery and chairman of the department, said the new method in use by the Center's cardiovascular team was described in a paper by Drs. Leland C. Clark, Jr., and L. M. Barger, Jr., in a recent issue of *Science*—official publication of the American Association for the Advancement of Science.

The technique is used in the diagnosis of septal defects (a hole in the wall which separates the two sides of the heart) and patent ductus arteriosus (a condition in which the vein and artery are still connected by a tube which normally disappears



New technique of diagnosis of congenital heart defects developed by Dr. L. M. Barger, Jr. (left), Dr. Leland C. Clark, Jr. (right) and Dr. Champ Lyons (seated) of the Medical Center's cardiovascular team.

shortly after birth). In both conditions oxygen-laden blood leaks from the left heart back into the right side and is recirculated to the lungs, thereby cheating the rest of the body of its normal supply of oxygen.

When a patient with one of these defects takes a whiff of hydrogen, it too enters the lungs, is dissolved in the blood, and within fractions of a second shows up in the right heart. The tiny platinum electrode mounted at the tip of a heart catheter is threaded through a leg vein into the right heart and continuous recording of the hydrogen concentration is traced on a moving strip of paper. The process is accurately timed by means of a similar electrode placed in the nose to signal the entrance of hydrogen. The time required for the blood to complete its normal circuit and return to the right heart is at least six seconds.

All previous methods have required withdrawal of a number of blood samples through the heart catheter and time-consuming laboratory analyses, often unavailable until after the patient is back in his room. Although some experimental work has been done on the use of radioactive compounds injected into the right heart, most of the diagnoses are based upon the amount of oxygen picked up in the right heart after the patient breathes pure oxygen. Since oxygen is always present in the blood in varying amounts, the results of this method are more difficult to interpret than when hydrogen—which is never found in the blood—is used. Many thousands of technical man-hours



could be saved by elimination of the O<sub>2</sub> determinations.

The location of the hole can be determined by changing the position of the electrode from the upper to lower chamber. Even very small leaks, which would be easy to miss with other diagnostic methods, can be detected. By means of a wire which runs through the catheter, an EKG can be taken at any time to determine which part of the heart the tip is then in.

This new method is particularly significant for infants, whose small blood volume may make removal of adequate blood samples a dangerous procedure. It should now be possible to discover these defects in children at a much earlier age.

According to Dr. Lyons, seven out of every thousand children are born with such abnormalities. Not only are they severely handicapped but also few can expect to reach maturity without corrective surgery. With the use of a heart-lung machine, such holes can now be closed; and in many cases children have been able to lead completely normal lives after surgery.

Since a number of other types of abnormality also found in children are not so easily corrected at the present stage of progress in the field, it is vital that as much information as possible be available to the surgeon and the cardiologist, who must decide when and whether to operate. It is particularly gratifying that the cardiologist can satisfy himself as to the presence or absence of a defect during one catheterization, since the necessity of subjecting the patient to another is eliminated.

Another application of the hydrogen electrode is also being investigated by the surgical team in the postoperative period. A tiny electrode is left in the right heart after surgery and a wire is brought out through the chest wall. At any time the hydrogen test may be employed to make sure that recovery is proceeding normally and that the hole has not reopened. In an emergency such as a sudden heart failure, the wire could be connected immediately to a pacemaker to shock the heart back into action without the reopening of the chest.

The search for better diagnostic methods for heart defects has been part of a research program supported in part by the Public Health Service and the Alabama Heart Association.

#### 222 ENROLLED AT MEDICAL CENTER

Two hundred and twenty-two young men and women began training for their chosen professions at the Medical Center in September.

The freshman class of the Medical College has eighty members this year. There are fifty-three new students in the School of Dentistry, nine in

#### FRESHMEN START MEDICAL TRAINING



Five members of the freshman class of the University of Alabama Medical College take a first look at the scientific equipment they will be using in their training. They are (left to right) Sam Fischer, Montgomery; Miss Helen Thrasher, West Blocton; Arthur Snyder and Gordon Spafford, Mobile, and James Alford, Albertville. The new class has 80 members.

the School of Medical Technology, and eighty in the School of Nursing.

Twenty-one of the eighty freshman medical students are from Birmingham. They are Edward S. Beason, John Kendall Black, Anna Bordenca, Robert Bryant, Charles Glenn Cobbs, Elizabeth J. Coleman, Francis L. Crocker, James S. Donahoo, Richard D. Harp, Russell N. Haynes, Gaines F. Jones, Burton S. Koplon, Leon Glenn Langer, Robert H. Kelly, Jr., Charles Carney, Paul P. McCain, Millie Martha McDaniel, William B. Nickell, Thomas H. Peacock, Jr., Don W. Powell, Roy T. Preston and Gerald L. Wallace.

Enrolled from Mobile are Gary Harben, John W. Lowery, Lloyd F. Pennington, Jr., Charles L. Rutherford, Arthur F. Snyder, Gordon L. Spafford and Jerald G. Steiner.

Tuscaloosa is represented by John Hugh Campbell, David H. Jackson, Cyrus H. McCrimmon, Jr., Battle S. Searcy, III, Harold O. Shapiro, Tilford Stevenson, Jr., and Edward L. Thomas.

Students from other cities are John E. Barnes and Samuel Fisher, III, Montgomery; Andrew J. Hughes and Betty W. Vaughan of Decatur; Harold E. Cannon and Oscar David Taunton of East Tallassee; Warren L. Griffin, Jr., Larry D. Grimes, Edwin M. Joyner, Jr., of Gadsden; William P. Guyton, Auburn; Joe Gibson Hardin, Jr., Hillsboro; Gary Henderson, Opelika; Pelham E. Justice, Hueytown; Alfred H. Kennemer, Athens; William L. Mitchell, Atmore; Kenneth A. O'Beirne, Dothan; Len M. Ouzts, Geneva; Thomas J. Payne, III, Jasper; Shirley Fay Sanders, Adamsville; Charles Gary Self, Quinton; Bennie L. Skelton, Columbiana; Betty Ruth Speir Smith, Greenville;



Richard J. Spurlin, Andalusia; William L. Stewart, Hartford; Helen R. Thrasher, West Blocton; George P. Walker, Attalla; Robert K. Wilson, Jr., Aliceville; James H. Alford, Albertville; William L. Barnwell, Oxford; Morton H. Bryant, Foley; Seaborn M. Chappell, Butler; Glenn Luther Clark, Deatsville; Bobby B. Copeland, Arab; William Carey Gates, Greenville; Bennie Grimes, Coffee Springs, and Lovic E. Rockwell, Vinegar Bend.

There are seven out-of-state students in the freshman class. They are Hugh G. Harris, Springfield, Mo.; James B. Hunter, Nicholasville, Ky.; Frank M. Lester, Pulaski, Tenn.; Alice L. McCollough, Hartsville, S. C.; Norman E. McSwain, Jr., Camden, S. C.; William B. Northcutt, Jr., Chipley, Fla.; and David A. Shachat, Newark, N. J.

#### VOLUNTARY FACULTY MEMBERS APPOINTED

Dr. Albert S. Hargis, Medical Director of Hayes Aircraft, and Dr. Burton S. Shook, Chief Occupational Health Officer at Redstone Arsenal, have been appointed to the voluntary faculty of the Department of Preventive Medicine and Public Health.

Dr. Hargis attended the University of Alabama Medical College and received his M. D. from Tulane University. He interned and did an internal medicine residency at Lloyd Noland Hospital before serving as district physician for T. C. I. for several years.

Dr. Shook graduated from the University of Tennessee College of Medicine and interned at General Hospital in Knoxville. He did graduate work at New York University Institute of Industrial Medicine.

#### DR. PIGMAN HONORED

Dr. Ward Pigman, associate professor of biochemistry, is recipient of the annual C. S. Hudson Award of the American Chemical Society. The award was presented during the annual dinner of the Society's Carbohydrate Division at Atlantic City, New Jersey, in September.

C. S. Hudson, for whom the award was named, was a leader in the carbohydrate field for many years before his recent death. He was a former resident of Mobile.

Other Medical Center staff members participating in the divisional meeting were Dr. Joseph F. Volker, dean of the School of Dentistry, and Dr. Wolfgang Roth, research associate in the arthritis and rheumatism laboratory.

**Salk Vaccine Reactions Are One in a Million**—Reported reactions to Salk polio vaccine thus far are so low as to make it unique among immunizing agents, according to Dr. Charles N. Christensen, Indianapolis.

Writing in the October 17 Journal of the American Medical Association, Dr. Christensen, medical division of Lilly Research Laboratories, said there have been only 284 reaction complaints in connection with 184,000,000 doses of Eli Lilly and Company manufactured vaccine. Of these, only 146 could be called possibly significant—a complaint rate of 1 per 1,200,000 doses.

One hundred thirty-eight complaints were of burning or stinging pain on injection and were regarded as less significant.

In six instances a clinical picture resembling polio was recorded. Weakness in the extremities not diagnosed as polio was reported three times, according to the article. In two patients it was transient. In the third case, an adult developed weakness in his left leg after a second injection and more severe weakness after a third injection.

Dr. Christensen stated that evaluation of polio possibly caused by the Salk vaccine is difficult, since some of the millions of persons immunized almost certainly were infected at the time of vaccination—or they acquired infection soon after receiving the vaccine.

He concluded, "It seems likely that cases of poliomyelitis which occurred after injections of the vaccine were coincidental to its use."

Nine cases of encephalitis were reported. In none of these were laboratory data available to identify the cause of the disease, according to the article.

Allergic reactions also were considered a potential hazard. But in 1954 when 7,507 children were test inoculated, only one instance of hives was encountered.

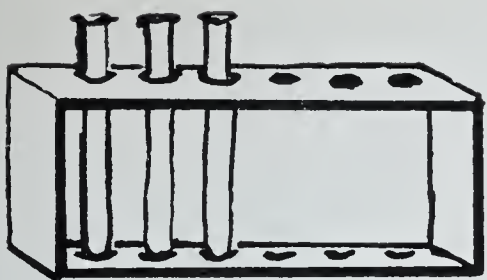
Penicillin also has been incriminated as a cause of allergic reactions after vaccination. It is impossible to omit antibiotics from the manufacture of Salk vaccine, Dr. Christensen noted, since they are essential to the prevention of bacterial contamination of the tissue culture. He pointed out that the incidence of allergic reactions has been so low, it has become difficult to determine if the vaccine itself was responsible. A very high degree of penicillin sensitivity would have to exist—a sensitivity so high that it is rarely found, he continued.

The one-in-a-million complaint figure is based on all complaints received from physicians, and in many cases the physician indicated he did not believe the reaction was related to the Salk vaccine. He reported either for information or in the course of an inquiry, according to Dr. Christensen's article.

The average patient in a general hospital today spends 8.6 days there—a decline of about one-third from the 12.5 average of 20 years ago.

Children nowadays need hospital care less often than they did 20 years ago, largely because the rates for two common operations, tonsillectomies and appendectomies, have declined by about half. At the same time, Health Information Foundation reports, improved surgical techniques have increased admission rates for most other operations, especially complicated heart surgery.





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.

State Health Officer

### THE MOBILE DENTAL UNIT

The mobile dental unit, a completely equipped dental office housed in a trailer, is scheduled to visit 22 counties during this school year. Visits were scheduled at the request of health and school officials in counties where the local dental society concurred in the program. Generally, visits are scheduled only in those counties which do not have clinical programs in dental public health.

Two weeks before the arrival of the mobile unit and the clinician who staffs it, the dental hygienist on the staff of the State Health Department will begin work in the community. She will conduct an educational program in the first grades of schools in the area and will screen all first grade pupils for dental defects. Children who are found to be in need of dental services will be referred for treatment. Children who are indigent are referred to the mobile unit. They may receive treatment if their parents consent and if two persons (local dentist, school principal, classroom teacher, public health nurse, County Director of Pensions and Security) attest to indigence. Children who are not indigent are referred to their private dentists.

The program for the mobile unit during a first visit to a community is as follows: On the first day, dental cleaning and topical fluoride applications will be given to indigent preschool children on a demonstration basis. Indigent children beyond the first grade will be given emergency treatment for the relief of pain and the elimination of oral infection where requested and with the consent of the parents in all cases. Indigent first graders who were referred by the hygienist and who have consent forms properly executed will be examined and charted and given definite appointments for service to begin on the second day of the unit's stay.

Beginning on the second day, complete care will be given to indigent first graders according to the following priorities:

1. Relief of pain.
2. Elimination of oral infection by extraction of teeth that cannot be saved.
3. Filling cavities in permanent teeth.

4. Filling cavities in primary teeth which will be retained more than one year.

5. Preventive orthodontics where feasible.

6. Prophylaxis.

Thus, during the first visit of the unit all first graders will be placed on a maintenance basis.

When the unit returns to this community the following year, concentration again will be directed towards indigent preschool children and first-grade pupils, with emergency care only for all others who are indigent. When the accumulated needs of the indigent first graders are met, the indigent second grade pupils (most of whom received complete care the previous year) will be taken and maintained in good dental health. Thus, all first and second graders will be placed on a maintenance basis after two visits by the unit.

At each subsequent annual visit the indigent first graders will be placed on a maintenance basis, and all those who received care during previous visits of the unit and who are still indigent will be followed up and maintained in good dental health. It is hoped that after eight years of operation of this "incremental" plan all indigent children between ages six and fourteen will be in good dental health and that their future needs will be minimal.

During the first day of the unit's visit in any area, emergency dental treatment will also be available to indigent prenatal patients on referral by the County Health Officer. Such treatment will be only for the elimination of pain and obvious oral infection which may be detrimental to their general health.

The mobile dental unit program is a part of the education, prevention and treatment phases of the state program in dental public health. It is designed to demonstrate to communities the benefits of early and regular dental care and of prevention. Personnel of the unit will be available for consultation with local groups on problems in dental health. Such groups might include teachers, civic groups, parent groups and/or local health personnel.

It is hoped that the program will stimulate communities to establish preventive programs—for example, topical fluoride programs, adjustment of the fluoride content of central drinking water supplies to the optimum concentration, and substitution of popcorn, fruit, nuts and milk for can-



dies, pastries and sweetened beverages frequently offered for sale in the schools.

The program may also serve to motivate all people in a community to seek dental care on a regular basis by demonstrating the benefits of such care on a selected group of children.

BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

August 1959

Examinations for malaria	55
Examinations for diphtheria bacilli and Vincent's	31
Agglutination tests	669
Typhoid cultures (blood, feces and urine)	755
Brucella cultures	6
Examinations for intestinal parasites	3,337
Darkfield examinations	3
Serologic tests for syphilis (blood and spinal fluid)	25,757
Examinations for gonococci	1,580
Examinations for tubercle bacilli	3,483
Examinations for Negri bodies (smears & animal inoculations)	281
Water examinations	2,706
Milk and dairy products examinations	4,614
Miscellaneous examinations	1,191
Total	44,468

Dothan Branch Laboratory report not received in time to be included in this report.

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BUREAU OF PREVENTABLE DISEASES

W. H. Y. SMITH, M. D., Director

CURRENT MORBIDITY STATISTICS

1959

	July	Aug.	E. E.* Aug.
Typhoid and paratyphoid	1	0	10
Undulant fever	0	1	1
Meningitis	0	2	9
Scarlet fever	23	52	17
Whooping cough	52	23	53
Diphtheria	0	1	16
Tetanus	3	3	3
Tuberculosis	170	176	199
Tularemia	0	0	0
Amebic dysentery	5	2	2
Malaria	0	0	0
Influenza	8	32	45
Smallpox	0	0	0
Measles	92	18	55
Poliomyelitis	57	97	62
Encephalitis	3	4	1
Chickenpox	43	2	6
Typhus fever	0	1	2
Mumps	15	12	38
Cancer	475	975	406
Pellagra	1	0	1
Pneumonia	114	144	117
Syphilis	143	176	147
Chancroid	2	1	4
Gonorrhea	323	340	399
Rabies—Human cases	0	0	0
Positive animal heads	18	10	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS  
AND COMPARATIVE DATA, JUNE 1959

Live Births, Deaths and Deaths by Cause	Number Registered During June 1959			Rates* (Annual Basis)		
	Total	White	Non- White	1959	1958	1957
Live births	6078	3829	2249	22.9	23.8	24.9
Deaths	2267	1401	866	8.6	8.5	8.3
Fetal deaths	166	71	95	26.6	19.3	24.8
Infant deaths— under one month	151	86	65	24.8	29.8	20.1
under one year	212	103	109	34.9	37.8	26.6
Maternal deaths	2		2	3.2	9.4	6.0
Cause of Death						
Tuberculosis, 001-019	21	10	11	7.9	11.8	11.6
Syphilis, 020-029	4		4	1.5	3.0	1.9
Dysentery, 045-048	2		2	0.8	1.1	1.5
Diphtheria, 055						0.4
Whooping cough, 056						
Meningococcal infections, 057	1	1		0.4	0.4	0.4
Poliomyelitis, 080, 081	1		1	0.4		
Measles, 085	3	1	2	1.1	0.4	0.4
Malignant neoplasms, 140-205	330	229	101	124.5	107.9	105.1
Diabetes mellitus, 260	23	13	10	8.7	9.1	7.7
Pellagra, 281	1		1	0.4	0.8	0.8
Vascular lesions of central nervous system, 330-334	316	189	127	119.2	114.0	125.9
Rheumatic fever, 400-402	1	1		0.4	1.1	
Diseases of the heart, 410-443	765	494	271	288.6	276.7	276.5
Hypertension with heart disease, 440-443	147	67	80	55.5	56.0	47.4
Diseases of the arteries, 450-456	39	25	14	14.7	22.1	19.6
Influenza, 480-483	3	1	2	1.1	1.5	3.5
Pneumonia, all forms, 490-493	60	28	32	22.6	17.9	13.1
Bronchitis, 500-502	2		2	0.8	1.1	0.8
Appendicitis, 550-553					1.1	0.4
Intestinal obstruction and hernia, 560, 561, 570	10	5	5	3.8	2.7	5.4
Gastro-enteritis and colitis, under 2, 571.0, 764	13	1	12	4.9	3.0	3.8
Cirrhosis of liver, 581	19	16	3	7.2	5.0	6.5
Diseases of pregnancy and childbirth, 640-689	2		2	3.2	9.4	6.0
Congenital malformations, 750-759	31	22	9	5.1	5.1	4.0
Immaturity at birth, 774-776	48	28	20	7.9	11.4	6.6
Accidents, total, 800-962	163	106	57	61.5	62.5	61.2
Motor vehicle accidents, 810-835, 960	72	54	18	27.2	26.3	25.4
All other defined causes	339	199	140	127.9	137.6	125.5
Ill-defined and unknown causes, 780-793, 795	70	32	38	26.4	32.0	28.1

Rates: Birth and death—per 1,000 population; Infant deaths—per 1,000 live births; Fetal deaths—per 1,000 deliveries; Maternal deaths—per 10,000 deliveries; Deaths from specified causes—per 100,000 population.

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## THE MILK-ALKALI SYNDROME

### CASE REPORT OF REVERSIBLE HYPERCALCEMIA, ALKALOSIS AND RENAL INSUFFICIENCY

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In 1923 Hardt and Rivers<sup>1</sup> described toxic manifestations following the alkali treatment of peptic ulcer. They reported a group of cases in which the symptoms of aversion to milk, headache, nausea, vomiting, weakness and drowsiness, occurred. They found signs of renal insufficiency and a tendency toward alkalosis in these cases. This syndrome, following the ingestion of milk and soluble alkali with the vomiting of chloride, has since been reported rather infrequently. Cope,<sup>2</sup> in 1936, described in patients ingesting antacids for peptic ulcer a syndrome consisting of elevation of the serum calcium, phosphorus, magnesium, blood urea nitrogen and serum bicarbonate with decreased serum chloride. Following discontinuance of the antacid the abnormal values rapidly returned to normal; the signs of renal impairment detected in these cases returned to normal rather slowly. Alkalosis associated with hypercalcemia was emphasized by Burnett<sup>3</sup> and his group in 1949; they found metastatic calcification in the kidney, blood vessels, eye and soft tissues to be a prominent feature. The Cope syndrome differs from that of Burnett by the more transient alkalosis, the rapid reversibility of the disorder, and absence of metastatic calcification in soft tissues.

Until 1955 only 21 cases of the syndrome of

hypercalcemia and renal insufficiency secondary to prolonged excessive milk and absorbable alkali intake had been reported in the literature.<sup>3-12</sup> An incidence of 1% in 291 patients with peptic ulcer has recently been described at a single hospital<sup>12</sup> within a one-year period. Between 1947 and 1956 one group<sup>13</sup> reports hypercalcemia and alkalosis occurring in 35 patients on a milk-alkali program for peptic ulcer. It would seem, therefore, that the occurrence of this syndrome is greater than ordinarily suspected.

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Diagnostic considerations in hypercalcemia are of marked importance because of the injurious and sometimes fatal consequences arising in such conditions. In attempting to clarify the problem, the effect of calcium given intravenously<sup>14,15</sup> has been studied. Renal tubular reabsorption of phosphorus has been measured<sup>14,16,17</sup> and the effects of cortisone and related steroids<sup>18,19</sup> have been investigated. Hypercalcemia in combination with renal insufficiency may occur in hyperparathyroidism,<sup>20</sup> vitamin D intoxication,<sup>21,22</sup> carcinoma with bone involvement,<sup>20,23</sup> acute osteoporosis,<sup>24</sup> multiple myeloma<sup>20,25</sup> and sarcoidosis.<sup>20,26,27</sup> The purpose of this paper is to present a patient with gastric ulcer complicated by the milk-alkali syndrome. He exhibited hypercal-

cemia, alkalosis and renal insufficiency, all of which were reversible.

## CASE REPORT

J. B. B., a 63-year-old minister was admitted to the Highland Baptist Hospital on October 25, 1958 and discharged on December 6, 1958. When first seen in November 1955, he related a history of typical ulcer distress over a 15-year period. He was first told that he had a duodenal ulcer in 1945 after x-ray examination elsewhere. When first seen his pulse was 72, his blood pressure 132/96. The remainder of the physical examination was essentially negative. The hemoglobin was 97%; WBC and differential were normal. Urinalysis showed a specific gravity of 1.007. There was no albumin or sugar and the centrifuged sediment contained one to two WBC per hpf. The NPN was 42 milligrams per cent. The free hydrochloric acid was 94, the total acidity 141. X-ray of the chest was negative. An upper G. I. series showed a normal esophagus and stomach. The duodenal cap was deformed. X-ray examinations of the colon and gallbladder were negative. He was placed on an ulcer diet and given antispasmodics and antacids with fair control of symptoms. Repeated x-ray examinations of his stomach in November 1956 and May 1958 showed the previous deformity of the duodenal cap but otherwise were negative. In October 1958 he returned complaining of upper abdominal pain occurring two to three hours after meals, which tended to radiate into his chest. X-ray examination of his stomach at this time revealed a small ulcer crater on the lesser curvature of the stomach about midway between the angulus and the pylorus. The deformity of the duodenal cap was unchanged. Upon admission to the hospital the blood pressure was 120/80. Examination of the eyes, ears, nose and throat was negative. The lungs were clear to percussion and auscultation. The heart was not enlarged and no murmurs were heard. Examination of the abdomen revealed mild epigastric tenderness. No organs or masses were palpable.

The hemoglobin was 14.4 grams, hematocrit 45%, WBC 9,600 with 62 neutrophils, 29 leukocytes, 5 monocytes, 3 eosinophiles, 1 basophile. The specific gravity of the urine was 1.010; it was negative for albumin and sugar. The microscopic examination was negative. He was placed on a strict ulcer diet with milk at meal times and supplemental feedings of milk and protein mixture between meals and at bed time. Calcium carbonate was given, 1 gram six times daily. Gastroscopic examination confirmed the presence of a gastric ulcer which appeared to be benign. Initially, he seemed to progress well except for occasional pain at night. Repeat x-ray examination ten days after his admission to the hospital, how-

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ever, showed the gastric ulcer to be about twice the size that it was on admission. During the second week of therapy he received salicylates for headache. He began to express a distaste for milk and frequently refused his between meal supplemental feedings. After three weeks he began to complain of nausea. He was noted to be restless and anxious. Drowsiness and slight mental confusion became apparent. The nausea progressed and frequent vomiting began. Because of the development of the above symptoms, the following laboratory work was obtained: NPN 76 mg.%, serum chloride 514 mg.%, serum sodium 138 mEq., potassium 3.9 mEq., serum calcium 15.7 mg.%, phosphorus 3.1 mg.%,  $\text{CO}_2$  combining power 72 volumes %. The urine specific gravity at this time was 1.003. There was a trace of albumin, and the Sulkowitch reaction was slightly increased. Because of the development of the characteristic symptoms and the above findings, the diagnosis of the milk-alkali syndrome was made. Milk and alkali were withdrawn from his treatment and he showed rapid clinical improvement. One week after milk and alkali were withdrawn, his serum calcium was 11 mg.%, his NPN 38 mg.%. He was temporarily discharged from the hospital and readmitted on December 31, 1958 for gastric resection. Following surgery he made an uneventful recovery. An ulcer crater measuring 1 centimeter in diameter and 1 centimeter in depth was found by the pathologist 4.5 centimeters proximal to the pyloric ring. Microscopic examination revealed only benign peptic ulceration. One week after surgery his NPN was 26 mg.%. He was discharged from the hospital on January 13, 1959 and has remained well since.

*Discussion:* It would appear from current data that this syndrome develops because of renal impairment, secondary to alkalosis, in combination with increased intake and decreased output of calcium.<sup>28</sup> The exact mechanism of this disorder, however, is not known. Severe renal insufficiency may result from metabolic alkalosis.<sup>1,29,30</sup> With antecedent renal disease, alkalosis may be a frequent complication;<sup>31</sup> also, evidence indicates that alkalosis may be a primary cause of renal failure. Burnett<sup>32</sup> is of the opinion that

renal insufficiency usually occurs with alkalosis regardless of previous renal insufficiency. An excessive load of calcium upon the kidney is known to be toxic to that organ. The hypercalcemia of vitamin D poisoning is capable of producing renal damage.<sup>33</sup> The association of the two nephrotoxic factors, i. e., alkalosis and high calcium intake, plus the fact that alkalosis probably promotes precipitation of calcium salts in the renal tubules, could be responsible for the total kidney damage. Cope<sup>2</sup> was of the opinion that renal insufficiency, which was due to alkalosis and not related to antecedent kidney disease, blocked normal calcium excretion. He reasoned that excessive ingestion of calcium with increased absorption produced the hypercalcemia. Calcium excretion is impaired in nephritis.<sup>34</sup> Renal failure may be produced by alkalosis irrespective of the presence or absence of renal disease. Increased calcium load is capable of furthering renal impairment. The excessive intake of calcium, together with a diminution in renal excretion, could produce the hypercalcemia without influence directly from the alkalotic factor. It is fair to assume, however, that there is no absolute proof that the milk-alkali syndrome could develop in the absence of preexisting renal impairment. Normally, an increase of either calcium or phosphorus produces an elimination of the other element by excretion, maintaining homeostasis.<sup>35</sup> Metastatic calcification may occur when the solubility product rises above 40.<sup>36</sup> With the constant elevation of serum calcium and the frequent elevation of serum phosphorus, the condition favoring metastatic calcification is furthered. The oral ingestion of milk, unless it has been acidified, will have little or no effect upon the serum calcium. It is not certain if the gastric hyperchlorhydria found in peptic ulcer will enhance the absorption of calcium over an extended period with the production of hypercalcemia. Milk also contains phosphorus, but it has not been demonstrated that phosphorus will affect the absorption of calcium from the digestive tract in man.<sup>37</sup> The increase in serum phosphorus seen in many of these cases could result from depression of the parathyroid gland as a result of hypercalcemia.<sup>36</sup>

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The serum phosphorus is usually normal but may be slightly elevated and in no instance has hypophosphatemia been reported. In the 21 cases reported up to 1955, the phosphorus was normal in 12, elevated in 9; hypophosphatemia was not noted in a single case. The alkaline phosphatase is usually normal. Wenger<sup>13</sup> has recently reported 4 cases of the milk-alkali syndrome with high alkaline phosphatase.

Alkalosis is a prominent feature of the syndrome and has been reported in the majority of cases. Azotemia, usually mild to moderate, is a constant feature. Hyposthenuria is found in practically all cases as is albuminuria. In the few cases in which glomerular filtration rate, effective renal plasma flow, and maximal tubular excretory capacity were studied, a significant reduction was observed.<sup>3</sup> Pyuria occurs occasionally. Phenolsulfonphthalein excretion and urea clearance tests show impairment of renal function in practically every case. One of the significant characteristics of this syndrome is the absence of hypercalciuria. It has been shown that alkali administration decreases the urinary excretion of calcium,<sup>20</sup> while ammonium chloride intake produces an increased calcium output.<sup>38</sup> The urinary excretion of calcium is decreased by the ingestion of inorganic phosphate.<sup>39</sup>

Bone defects were detected in two of the cases described by Burnett,<sup>3</sup> one case showing dense cancellous bone on microscopic examination, the other radiologic evidence of extensive periosteal new bone formation. The majority of the cases of Burnett's syndrome have shown ocular lesions consisting of band keratitis, crescentic deposits of calcium in the margins of the cornea, and crystalline deposits of calcium in the conjunctiva of the palpebral fissure. Calcinosis has been described in the subcutaneous tissue, the blood vessels, kidneys, lungs, brain, bone, periosteum, tendons, muscles and lymph nodes. A small number of the cases have shown nephrolithiasis. Pruritis, pigmentation of the skin, and hyperproteinemia have been mentioned in Burnett's series of cases.

Of chief consideration in the differential diagnosis is hyperparathyroidism, in particular hyperparathyroidism associated with peptic ulcer treated with milk and alkali. It has been emphasized,

first by Gutman<sup>40</sup> and then by others, that the gastrointestinal symptoms of primary hyperparathyroidism may so dominate the clinical picture that peptic ulcer is strongly suggested. Rogers<sup>41,42</sup> has studied at autopsy three cases of primary hyperparathyroidism associated with peptic ulcer in which the digestive symptoms during life were believed to be due entirely to ulcer. Black's<sup>43</sup> studies reveal that 24% of patients with hyperparathyroidism can be shown to have clinical evidence of peptic ulcer and an additional 15 to 20% of such patients have had some ulcer-like symptoms without x-ray evidence of peptic ulcer. Because of this, he advises screening of patients with intractable ulcers for the possibility of hyperparathyroidism. Atlas<sup>44</sup> suggests that the complex of hypercalcemia, calcinosis and renal insufficiency without hypercalciuria or hypophosphatemia in patients with peptic ulcer complications should direct attention to occult hyperparathyroidism as a probable initiating agent. Kyle<sup>28</sup> believes that the sole differential diagnostic feature worthy of emphasis is improvement on a diet low in calcium and absorbable alkali. Recently, Rich<sup>45</sup> has described two cases of hyperparathyroidism without bone or kidney manifestations of the disease; nausea and vomiting accompanied the profound weakness and weight loss in his cases. After reviewing the literature Agna<sup>46</sup> reports that gastro-enteric symptoms are a common major manifestation of primary hyperparathyroidism. It is believed that parathyroid hormone increases the volume of gastric juice and the secretion of hydrochloric acid, chloride and pepsin.<sup>47</sup> Vitamin D intoxication is differentiated by a history of excessive vitamin

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D ingestion and a more frequently elevated alkaline phosphatase. A review of the entire clinical picture with the indicated laboratory tests will serve to differentiate carcinomatosis with bone metastasis, acute osteoporosis, multiple myeloma and sarcoidosis.

Certain precipitating factors are known to influence the development of the milk-alkali syndrome, e.g., preexisting renal disease, gastrointestinal hemorrhage, hypertension and hypochloremic alkalosis resulting from vomiting or gastric aspiration.<sup>13</sup>

Primary hyperparathyroidism associated with pancreatitis and peptic ulcer has recently been reported in a clinico-pathologic conference.<sup>48</sup> Plough<sup>49</sup> has described a case believed to represent hyperparathyroidism secondary to pancreatic insufficiency.

The prognosis of the milk-alkali syndrome is variable, depending largely upon the duration and the severity of the renal disease. The prognosis for the transient form as described by Cope is much better than the more chronic irreversible type.

Therapy in this syndrome consists of a low calcium diet and withdrawal of absorbable alkali. Myerson<sup>50</sup> has postulated that by diversion of phosphates in the gastrointestinal tract aluminum hydroxide gel may play a significant role in the prevention of phosphate calculi and the milk-alkali syndrome.

The case presented in this report is similar to those described by Cope with reversible hypercalcemia, alkalosis and renal insufficiency. The intake of alkali and milk is not considered excessive relative to the usual standards of peptic ulcer therapy. It is believed that the preexistent mild renal impairment exhibited by this patient before being placed on a strict milk-alkali program possibly influenced the development of this syndrome. The diagnosis of hyperparathyroidism was entertained but appears untenable in view of the disappearance of the chemical abnormalities and the general well being of the patient.

#### SUMMARY

A patient with proved gastric ulcer ingesting standard amounts of milk and the alkali calcium

carbonate developed the milk-alkali syndrome, characterized by hypercalcemia, alkalosis and renal insufficiency without hypercalciuria or hypophosphatemia. There was no evidence of ocular changes or other calcinosis. Following a low calcium diet and discontinuance of the alkali, improvement was rapid and apparently complete.

A review of the milk-alkali syndrome is presented emphasizing the differential diagnosis of hyperparathyroidism and this syndrome.

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**Persons Over 40 Need Glaucoma Examinations**—Examination for glaucoma, which may lead to blindness, should be an "indispensable" part of all physical examinations of persons over 40 years, according to five Memphis doctors.

Persons with chronic diseases, such as hardening of the arteries, high blood pressure or arthritis, especially should be examined for the disease, the doctors said in the October 24 Journal of the American Medical Association.

In glaucoma, which is most prevalent in persons past 40 years of age, tension within the eyeball is increased. The structure contains fluid that keeps the orb from collapsing. The fluid enters through openings in one part of the eye and escapes from others. Glaucoma occurs when the outflow is blocked and the excess fluid builds pressure in the eyeball and damages the nerve cells.

It can be treated and blindness prevented if the disease is discovered early enough. A simple test, tonometry, can show the presence of glaucoma.

The doctors reported a study of 13,155 persons in hospital and nonhospital groups during a two-year period. Tonometer testing revealed 271 cases of subclinical glaucoma not under treatment. During the same period 62 persons who visited the ophthalmology clinic at the teaching hospital of the University of Tennessee College of Medicine were found to have the disease.

The highest rate of glaucoma was found in residents of a home for the aged, where 6.4 per cent of those examined had the disease. The next highest rate (3.4 per cent) was in Negro women visiting outpatient clinics and in Negro males engaged in occupations involving considerable manual labor (3.1 per cent).

The lowest rate was in white women who engaged in occupations requiring "discriminatory visual activity," such as teaching or department store clerking, the doctors said. Their low rate may result from the fact that they have frequent eye examinations and glaucoma is discovered early.

In general the study produced three conclusions: glaucoma occurs more frequently as age increases; it occurs more frequently in Negroes than in white persons, and there seems to be an association between the disease and other chronic diseases, such as arthritis or high blood pressure.

The authors are Drs. Henry Packer, Alice R. Deutsch, Philip M. Lewis, Claude D. Oglesby, and A. C. Cheij.

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A CLINICAL APPRAISAL OF ANTIHYPERTENSIVE  
THERAPY UTILIZING THE SEVERITY INDEX

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As new drugs for the treatment of hypertension are developed and introduced, their evaluation becomes increasingly difficult but of no less importance. No concrete and definite criteria for such an evaluation are as yet recognized. Although the primary aim at present is to reduce arterial pressure, it has been demonstrated that pressure decrease alone may be achieved as a result of various modalities such as rest, reassurance, sedation, and frequent blood pressure determinations.<sup>1,2</sup> In addition, there is no general agreement as to the critical point at which hypertension should be treated. The question of the control of mild and moderate hypertension as it relates to increased longevity has not been clearly determined. Reduction of severe blood pressure elevation is, of course, mandatory. Although a blood pressure level of 140/90 millimeters of Hg. is considered to be the upper limit of normal, the extensive studies of Master and associates<sup>3,4</sup> have thrown doubt upon this concept. Differences of opinion even exist as to the causal relationship between hypertension and coronary occlusion.<sup>5</sup>

Hypertension itself is vital only in its effects upon target organs; namely, the heart, brain, and kidney. In appraising therapy it would be of distinct value to determine the results of treatment upon these target organs as well as upon the blood pressure level per se. In our hypertensive clinic we are attempting such an investigation by the use of the severity index.

The severity index (Table I) as modified from Duncan<sup>6</sup> may prove to be a useful and possibly

Table I  
SEVERITY INDEX DETERMINATION

Score	1	2	3	4
Diastolic Blood Pressure	96-110	111-125	126-140	141+
Cardiac Enlargement %	5-10	11-20	21-30	31+
Albuminuria	Tr.—1+	2+	3+	4+
BUN	15-20	21-30	31-40	41+
PSP (% in 20 min.)	31—	21-30	16-20	10-15
Fundi	Grade I	Grade II	Grade III	Grade IV

more accurate aid in initiating and evaluating therapy in the hypertensive patient. As shown in Table I, arbitrary numerical values of one to four are tabulated for each patient according to the diastolic blood pressure level, the degree of fundal sclerosis, the percentage of cardiac enlargement, the urine albumin content, the PSP excretion, and the BUN level. The maximum severity index would thus be 24; that is, a grade of four for each test factor.

Hypertensive patients then fall into four arbitrary groups:

Grade	Severity Index
I	0-6, Mild Hypertension
II	7-12, Moderate Hypertension
III	13-18, Moderately Severe Hypertension
IV	19-24, Severe Hypertension

Severity indices as determined prior to therapy and after approximately twelve months of intensive drug therapy form the basis of this study. It is a preliminary report from a long-term investigation\* presently in progress and pertaining to combined drug therapy in the management of hypertension.

MATERIAL AND METHODS

Forty-eight patients with hypertension were treated for 12 to 24 months on an out-patient basis. Most of the group had been followed in the clinic for years, and there was little doubt as to the persistence or severity of their hypertension. Age, nitrogenous retention, and cardiac decompensa-

\*This investigation is supported by a grant from Ciba Pharmaceutical Products, Inc., Summit, N. J. Reserpine, hydralazine, and chlorisandamine are supplied as Serpasil, Apresoline, and Ecolid, respectively.

From the Department of Medicine, Medical College of Alabama.

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tion were not considered contraindications in admitting them to this study.

According to the above classification, hypertension was mild in 4 patients, moderate in 37 patients, and moderately severe in 7 patients. There were 3 white males, 3 white females, 11 colored males, and 31 colored females. Ages ranged from 27 to 67 years. All arterial blood pressures were taken with the patient in a sitting position after a short rest period. Blood pressure index determinations were tabulated from averages of three separate clinic visit readings.

Patients were examined at one- to four-week intervals, depending upon response to drug therapy. Reserpine, hydralazine, and chlorisandamine were given either singly or in combination. Reserpine was used to initiate therapy in all patients, the dosage ranging between 0.25 milligram and 1.0 milligram per day. Lacking adequate decline of the blood pressure, hydralazine was added, beginning with 10 milligrams four times a day to a maximum of 100 milligrams four times daily. Chlorisandamine was added to this regimen when indicated, starting with as little as 10 milligrams and reaching as high as 300 milligrams a day in a few instances. Initially, this latter drug was given every 12 hours, but patients showed a smoother and more predictable blood pressure response when this medication was administered three times daily, at eight hour intervals. Each drug was increased to the maximum mentioned above before adding the next more potent hypotensive agent.

Three patients received reserpine alone; 24 reserpine and hydralazine; and 22, reserpine, hydralazine, and chlorisandamine.

RESULTS

All patients improved subjectively. Seventy-three per cent showed an average decrease in diastolic pressure of 10 mm. of Hg. or more. The blood pressure in the other 27% did not change appreciably. The interval between indices was

quire a change of only one point either upward or downward, it was elected to categorize those patients whose indices increased two points, decreased two points, or remained the same as essentially unchanged. Twenty-seven patients (56%) fall into this category. Nineteen patients (40%) had index decreases of greater than two points, and were considered improved. Two patients (4%) became worse, with index increases of four and five points each.

One patient (CM) with chronic renal disease, an initial BUN of 34, and a duodenal ulcer had a massive gastrointestinal hemorrhage after having been on reserpine and hydralazine for 16 months. Subtotal gastrectomy was performed, but nitrogenous retention increased, and he died in uremia four months after the operation. Another patient (CF) on reserpine, hydralazine, and 75 milligrams of chlorisandamine, daily, developed paralytic ileus necessitating operation, and recovered. All other patients tolerated the drugs well except for minor side effects, which tended to disappear as therapy was continued. No lupus-like syndrome occurred in those patients on hydralazine, nor was reserpine-induced depression evident.

As would be expected, little change occurred in the degree of fundal sclerosis in this relatively short period of time.

In several patients, evidence of cardiac failure disappeared, and the necessity for mercurial diuretic injections diminished. One white male who had been in severe heart failure was able to return to his usual work as a painter.

SUMMARY AND CONCLUSIONS

Forty-eight patients were treated on an outpatient basis for 12 to 24 months with combinations of reserpine, hydralazine, and chlorisandamine.

All were symptomatically improved regardless of blood pressure response.

In 73% of the patients the decrease in diastolic blood pressure was greater than 10 millimeters of mercury.

In 40% of the patients there occurred a significant decrease in the hypertensive severity index.

Four per cent (2 patients) showed progression of their vascular disease as reflected by an appreciable increase in the severity index.

Smoother control was achieved by giving chlorisandamine on an eight-hourly interval dosage schedule.

All drugs were well tolerated as used in this study.

In the long-term therapy of hypertension, periodic determinations of the severity index may prove of greater value than blood pressure response alone in the appraisal of the results of therapy.

Table II

CHANGES IN SEVERITY INDEX SCORES AFTER 12 MONTHS OF HYPERTENSIVE THERAPY

Change in Severity Index Score	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	+7
Number of Patients	1	1	5	5	7	11	5	6	3	2	0	1	1	0	0
	Improved 40%					No Significant Change 56%					Worse 4%				

approximately 12 months. Table II tabulates the change in the index rating over this period of time. Rather than define the number of patients who changed from one hypertensive classification to another, which would in some instances re-



## CURRENTS TRENDS AND PROBLEMS IN MEDICAL MALPRACTICE LITIGATION

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### A. REASONS FOR INCREASE IN SUCH CASES

In view of the recent increased volume of litigation arising in this field, many physicians and surgeons are under the impression that courts and lawyers have suddenly decided to act in concert against them by broadening concepts of liability on their part to their patients. Lawyers assure us, however, that as potential defendants we are not unique in this situation, and they tell us that law books for the past decade are full of examples, at least where personal injury suits are concerned, where the courts have expanded concepts of liability and have stripped defendants of many previously considered well established defenses. For example, charitable institutions, including hospitals, have been stripped by many state courts of former immunity that they had to tort claims.

An employer of a longshoreman who thought that he was protected by the purchase of insurance to cover his limited liability under the federal Longshoremen's and Harbor Workers' Act suddenly found himself on a new rung established in the legal merry-go-round whereby his employee sued a third party vessel owner for full damages at common law and the vessel owner then sought indemnity in full against the longshoreman's employer. Other employers who think that they are protected by the limited liability established by state workmen's compensation laws have suddenly found themselves exposed to full liability by way of indemnity to third parties against whom recovery has been had under a scaffolding act, so it is apparent that physicians and surgeons are not the only claims of defendants being "picked upon" by the courts today.

However, there are many things that physicians and surgeons can do to offset this trend of litigation against them. They must recognize that attorneys who are representing injured persons are highly trained in a highly specialized field. They have organized into an organization called the "National Association of Claimants' Compensation Attorneys," more commonly known as NACCA. They hold seminars at regional meetings throughout the country where they draw audiences of as many as a thousand attorneys. One of the original founders of this organization was recently scheduled to address such a seminar in Indianapolis. The crowd that showed up for

the meeting made it necessary to transfer the place of the meeting to the grand ballroom of the hotel, and even then local fire regulations required the closing of the doors to keep out the overflow crowd. The subject matter of the discussion was malpractice litigation and the speaker strongly advocated that one of the requirements of the state bar examinations should be the inclusion of medical questions so that the successful applicant would be deemed capable to meet a physician or surgeon on equal terms when he undertakes cross-examination of a defendant in a malpractice suit.

A further factor that we are dealing with is an extremely claims-conscious public. Our daily newspapers publicize high jury awards. *Time* magazine, in a recent article, quoted an attorney, who had won a \$650,000 award for an injured person, as saying that this recognized "the true value of man." *Life* magazine recently had a several page spread on the "King of Torts" who has been the principal advocate of the "adequate award."

Physicians and surgeons must recognize that in an age of specialization they no longer have the direct personal contact of the family physician and his patient. The public today believes in and expects miracles, and the failure to perform such results can lead to litigation. A patient often shops around for medical care. It has been found, time and time again, that the seed for the filing of a lawsuit has often been the loose talk of a physician who examines a patient after he has been treated by someone else, and more often than not such loose talk was wholly unjustified and would not have been made had the second physician known all of the facts concerning the prior treatment and not just those given by the patient alone.

Nor do the facts bear out the charge made against physicians and surgeons that there is a so-called "conspiracy of silence" whenever a claim is presented against one of them. They are the first to know when a mistake has been made and are the first to recognize when just compensation should be paid. Such claims are quickly and adequately compensated. The so-called conspiracy of silence arises in those cases where the facts definitely show that there was no malpractice involved. In the face of the facts in such cases, of course, the claimant is unable to obtain expert medical testimony to support charges of malpractice. Nevertheless, this charge of con-

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spiracy has been made so widely that it has even received recognition in judicial opinions—opinions that have tended to whittle away the requirement of expert testimony in a malpractice suit before an award for damages can be effected by a plaintiff.

#### B. EXPANDED LEGAL BASES FOR LIABILITY IN MALPRACTICE SUITS

The courts in many jurisdictions now hold that expert testimony is no longer required where the physician uses some mechanical instrumentalities in the treatment rendered which results in an injury. The so-called *res ipsa loquitur* doctrine—the thing (the injury) speaks for itself doctrine—has been applied by the courts where x-ray has been used in the treatment of patients. Of course, if an x-ray machine is used for the taking of diagnostic films only and because of some mechanical defect in the apparatus the patient suffers an x-ray burn, the court is justified in invoking that doctrine and placing the burden on the defendant physician to explain that the burn resulted without fault on his part. However, to invoke the doctrine where x-ray is used in therapy where a physician must exercise his professional judgment as to the amount of exposure, etc., then certainly the doctrine is utilized by the courts far beyond its intended purposes, for the lay jury is certainly not in a position to pass on the exercise of such judgment without the help of expert testimony. Instead, the court should require expert witness testimony that such exercise of professional judgment was improper under the circumstances. Yet many courts fail to make this distinction.

Another basis for expanding liability on the part of physicians and surgeons is to charge them with responsibility for the acts of nurses, interns, and other personnel who may be assisting them under the so-called loaned-servant doctrine. In the jurisdiction where I come from the Illinois courts have held that a surgeon could rely upon a sponge count of a trained surgical nurse who was assigned by the hospital to assist him, and that he, therefore, was not responsible to a patient where there was a failure to remove a sponge after an operation. In the jurisdiction directly east of us the courts of Indiana have held a surgeon responsible for the acts of anyone assisting him in the course of surgery. In the state to the west of us the Iowa courts have even gone further by following a California precedent that where injury occurs to a patient who is under anesthesia the doctrine of *res ipsa loquitur* is invoked, and this raises a presumption that the injury was due to negligence on the part of the physician or surgeon who must then undertake the burden of overcoming that presumption. In other words,

you are no longer deemed innocent until proved guilty, but you are deemed guilty until you prove yourself innocent.

The courts have also whittled away at the expert testimony requirement by developing concepts that there are certain phases of medical treatment that a layman sitting as a juror can judge without the assistance of expert testimony. One of the most prevalent of these concepts is the theory of abandonment of a patient. Under this concept, if a patient claims that a physician or surgeon fails to respond to a house call or who fails to make sufficient visits to the patient, the layman jury can pass on this charge of neglect without the assistance of medical expert testimony.

#### C. RECOMMENDATIONS AS TO WHAT CAN BE DONE TO OFFSET THESE TRENDS

One of the most important weapons in meeting baseless and unfounded charges against physicians and surgeons is an adequate and complete system of records. In a recent case that was tried for three weeks before a jury the resulting not guilty verdict in favor of the orthopedic surgeon was based principally on adequate records kept both by the hospital where the surgery had taken place and by the office records of the surgeon. The suit was based on the charge that in the treatment of a complete fracture of the neck of the right femur the surgeon had permitted the patient to leave the hospital with a draining sinus at the site of the surgery; that he thereafter failed to respond to house calls as the drainage increased; and that on further hospitalization he failed to order laboratory tests that would have disclosed the nature of the organism that allegedly caused an infection that ultimately resulted in necrosis of the head of the femur. Even in this case the records were just adequate enough so that they did disclose that laboratory tests were ordered. However, it was the practice of the hospital that in the event that the findings of the laboratory were negative, then no report would be made. The simple written report of negative findings would have obviated the necessity of producing the pathologist at the trial to testify that his analysis resulted in negative findings. Of course, the plaintiff's attorney argued to the jury that such procedures were incredible and should not be believed. Fortunately, the pathologist did make a record of subsequent tests following the removal of the necrotic head and these tests showed that the necrosis was aseptic. This orthopedic surgeon was fortunate in having an office card record that refuted completely the testimony of the patient and his wife that he made no house calls in the time between the two hospital periods.

One thing that should be avoided in the keep-



ing of records is that of stating unwarranted conclusions rather than specific facts. Very often nurses and interns are likely to put in records conclusions wholly unwarranted by the facts, and physicians and surgeons should be very careful in reviewing all records that are made relative to their patients.

Sometimes good plain talk is required with physicians and surgeons. Many malpractice cases find their seed in antagonism that a patient builds up due to bedside mannerisms. No matter what the pressure of time may be, a few words of encouragement and explanation rather than gruff criticism of a patient's complaints can do much to build up confidence and to cement good patient-physician relationships.

One very fertile field for producing actual malpractice suits are bill collection procedures. Very often a suit by a collection agency for the physician or surgeon's fees will result in a counterclaim for malpractice. Where the physician or surgeon is aware of the fact that a patient is not satisfied with the result, or has complaints about the size of the fee charged, he should make every effort to work out this difference on an amicable basis before resorting to litigation. One of the hazards of such litigation was most strikingly made apparent in a case arising in our jurisdiction. A surgeon had performed a myelogram. Subsequently the patient complained of pain in her back and of trouble with her lower extremities. The surgeon referred her to her family physician and her family physician referred her back to the surgeon, and frequent telephone calls for help produced the same results. The surgeon ultimately turned over his bill for collection to an agency who retained a collection attorney, who proceeded to file a suit before a justice of the peace. The collection attorney requested the physician to appear before the justice of the peace to prove the reasonableness of the fee charged. The hearing was set for a Saturday afternoon. The defendant-patient appeared with an experienced attorney well versed in the medicolegal field. The collection attorney knew little or nothing about this particular field, and the justice of the peace was not even a lawyer. The attorney for the patient, therefore, had what was actually a free ride to cross examine the surgeon for two full hours, and every word of the testimony was taken and transcribed by a court reporter. Subsequently, a malpractice suit was filed. The attorneys representing the malpractice insurers were not advised about the prior collection proceeding until the case was reached for trial and after the trial attorney representing the surgeon had made his opening statement as to what he expected to prove on behalf of the surgeon. The

patient's attorney then privately disclosed to the attorney for the surgeon that his opening statement would be impeached in fourteen different ways by the testimony given by the surgeon himself in the collection suit. Needless to say, that case was settled before the noon recess was completed, but the settlement, in view of the severe injuries involved, more than exhausted the insurance under which the claim was being defended and a further additional contribution on behalf of the surgeon had to be made.

One cannot overstress the need for complete cooperation between the physician and surgeon with his malpractice insurers. Most insurance policies require immediate written notice to the insurer of any incident that is likely to result in a claim. Waiting until suit is actually filed can very well result in the insurer denying liability to the physician or surgeon for the claim because of the delayed notice. Early notice by the physician or surgeon to the insurer will result in an immediate investigation while all of the witnesses are still readily available and all of the facts can be developed. If no notice is given until several months elapse, important witnesses, such as residents and interns, may no longer be in the vicinity or even in the country, and important gaps in the evidence will develop. Furthermore, early contact by the insurer with the patient or the patient's attorney may result in a disposition of the claim on a nominal basis which will avoid costly litigation.

If litigation does develop, the physician or surgeon should insist upon a full understanding of the medical aspects of the litigation on the part of the trial attorney who will defend him in the suit. The physician or surgeon and the attorney should review jointly each and every record available. Important witnesses should be interviewed by them jointly. Different lines of testimony should be developed in anticipation of the evidence that may be produced on behalf of the patient. Current medical literature on the subject matter involved should be read and discussed by the physician or surgeon and the attorney jointly. Questions for cross-examination of adverse medical experts should be worked out well in advance of the trial date. And, finally, the physician or surgeon should be prepared to be present at every minute or second of the trial no matter the length of its duration. When the chips are down in malpractice litigation, as anywhere else, adequate preparation is the only defense available to the physician or surgeon.

14 E. Jackson Boulevard



# CONTAMINATION OF SCHOOL WATER SUPPLY WITH SLUDGE FROM THE SEPTIC TANK

## THE CENTER POINT, ALABAMA, INCIDENT

GEORGE A. DENISON, M. D.

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Sewage contamination of the water supply of schools or other institutions served by septic tanks is of infrequent occurrence, but the hazard is potentially present and actual contamination may take place when maintenance crews cleaning such tanks are not alert to the dangers involved. Just such an episode occurred at a Jefferson County school in the fall of 1958.

Center Point, located on a principal highway two miles to the east of Birmingham, is a rapidly growing, unincorporated community of approximately 7,000 people in the middle income group. The water supply is from deep wells operated by a small independent utility, and sewage disposal is by septic tanks. The Center Point community has one grammar school with an enrolment of 494 pupils, age 6-14, and a kindergarten with an enrolment of 30, located in the basement of a church across the street from the school.

At 9:30 on the morning of Thursday, November 13, 1958, the lunchroom personnel at Center Point School had completed most of its preparations for lunch. After a belated decision to prepare additional spaghetti, a pitcher of water was drawn from the tap. The water was observed to be brown in color and of strong odor, and was not used.

Within the hour the school maintenance crew, which had been busy cleaning out the septic tank, had returned from dumping the first tank truck load of sewage, and found much excitement about the taste and odor of the school water. Upon being notified by the school Principal, the operator of the public water supply system began his inspection by momentarily drinking from a fountain, until the odor and taste of the water became evident.

In looking around for the source of the trouble, the operator quickly noted the school maintenance crew with centrifugal pump and tank truck emptying the septic tank. He jokingly said, in effect: "You fellows have been pumping sewage into my water supply." On closer inspection he saw a direct hose connection from a water spigot to the centrifugal pump, and in astonishment remarked, "My God! You really have!"

About 1:00 P. M., the Bureau of Sanitation, Jef-

ferson County Health Department, was notified by the Director of Maintenance for the County Board of Education that there was sewage pollution of the Center Point School water supply. The Director and his assistant doubted the accuracy of the report, but drove immediately to the school arriving about 2:00 P. M. Upon entering the first classroom they were informed by the teacher that an "all-clear signal" had been given, and the children were then in process of drinking from water fountains. This was quickly stopped through the Principal, who ordered, over the communication system, that the water, which still had a strong odor of sewage, not be drunk. The supply was cut off at the meter.

At this point the Health Officer was called and through the engineers and the school Principal a quick program was outlined for notification of parents of what had happened and what immunization procedures were necessary. School was about to adjourn for the day, and it was felt that immunizations should start the following day (Friday), otherwise there would be a delay until Monday. Notices to parents were written on the black boards of each class room and were copied by pupils (with help from teachers). These notices also served as consent slips when signed by the parents and returned by the pupil.

By mid-afternoon releases were made to the press, radio and TV over the signatures of the Health Officer and County Superintendent of Education. All subsequent releases to the press and notices to parents were jointly signed. All notices to physicians and to hospitals were signed only by the Health Officer. On the day following the incident (November 14), the following notice was sent by first class mail to physicians and hospital administrators in the eastern section of Birmingham and the County.

1) On Thursday, November 13th, the water supply of Center Point School was grossly polluted with sewage by a cross-connection created while emptying the septic tank. School enrolment is 494.

2) Administration of typhoid vaccine and polio vaccine to pupils and to all members of the immediate family or household is recommended regardless of previous immunization. Vaccine for that purpose will be furnished by the health department.

3) Among the possibilities are epidemics of

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The author is Chairman of the Department of Preventive Medicine and Public Health, Medical College of Alabama; and Health Officer of Jefferson County.



dysentery, typhoid fever, poliomyelitis, and aseptic (virus) meningitis.

4) Typhoid vaccine and polio vaccine are being given at the school today.

5) Please notify this office promptly of any illness of Center Point pupils that comes to your attention. Early hospitalization of communicable disease cases is desired.

6) Paired blood specimens (early and convalescent) should be collected for diagnostic aid of viral disease.

On November 20th, one week after the episode, letters were sent to all physicians in the County, describing the incident and emphasizing the need for prompt reporting of infectious disease, the value of paired blood specimens, and appropriate bacteriologic examinations. Information of the Health Department program was quoted as follows:

"(1). On Friday, November 14th, the day following the episode, typhoid and polio vaccines were given to school children and their household contacts. (2). On Wednesday, November 19th, gamma globulin was given to pupils and teachers. (3). On Friday, November 21st, a second injection of typhoid vaccine will be given at the school, and (4), on Wednesday, November 26th, the third dose of typhoid vaccine will be given. This constitutes the available immunization procedures for children, parents, and teachers."

#### IMMUNIZATIONS

On Friday, the day following the incident, classes were held long enough to complete the immunization program. The school water supply was not used. To avoid delay, typhoid vaccine and poliomyelitis vaccine were given at the school to children and teachers and their familial contacts without inquiry about previous immunization procedures. Immunization histories were obtained prior to subsequent inoculations. The same procedure was followed for the kindergarten children across the street for three or more days would elapse before bacteriologic water examinations would indicate whether that water supply had also been contaminated. Kindergarten children and their household contacts were not included in subsequent inoculations since results of laboratory tests indicated contamination of the water supply was limited to the grammar school building.

The numbers given inoculations were as follows:

Date	Days After Incident	Typhoid Vac.	Polio Vac.	Gamma Gl.
Nov. 14	1	1,262	1,089	
19	6			508*
21	8	1,132		
26	13	897		

\*1.0 cc. children. 2.0 cc. adults.

#### THE CROSS-CONNECTION

The pumping equipment used to empty the septic tank was purchased by the Jefferson County Board of Education from war surplus supplies. This equipment had been utilized by the school maintenance personnel over a long period of time without difficulty. On this particular occasion the person who customarily operated the equipment was sick and the responsibility fell on someone unfamiliar with the mechanical details of the pumping system.

Contamination of the school water supply distribution system was caused by the reverse flow of sewage from the septic tank through the pumping equipment and into the school water lines through a plastic water hose connecting the school water lines to the pump and motor.

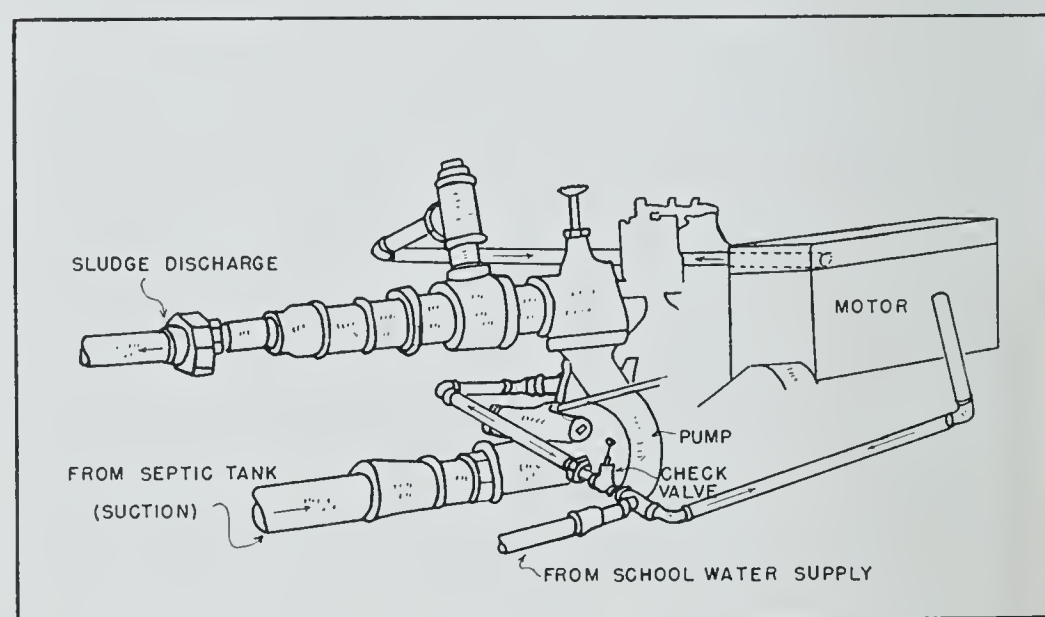


FIGURE 1

The mechanical structure of the gasoline motor used to propel the pump impellers required the circulation of water through water jackets in the motor for cooling purposes. This water was supplied by attaching one end of a plastic hose to a water faucet in the school boiler room and the other end to a pipe on the pumping equipment. As noted in Figure 1, water from the public supply to the pumping equipment served a dual purpose: (1) priming of pump on beginning of operations of pumping; (2) cooling water for the gasoline engine. This system provides two ways by which the cross-connection of the school water supply with the pumping equipment could contaminate the school supply. These were: (1) the connection from spigot to pumping chamber through the piping used for priming purposes. (2). The connection from spigot through the water cooling jackets in the motor and to the exhaust side of the pump.

In the ordinary operation of this equipment the pump was primed by opening a valve on the piping system until pump was primed then the valve was closed immediately in an effort to prevent any backflow of sewage into the potable water system. The flow of water under pressure



of the school system was permitted to circulate through the cooling system and into the discharge side of the pump.

On this occasion, after priming the pump, the operator failed to close the valve used for priming purposes. As a result, the pump was forcing sewage from the septic tank simultaneously into the water system and truck sludge tank. The normal use of water in the school caused low pressure on the boiler room water line which set up a back flow of sewage into the school system. As drinking fountains, lavatories, water closets, and cafeteria faucets were opened the sewage continued to flow into these lines.

In ordinary operation (with priming water valve closed) water circulated through the motor cooling system and into the discharge line of the pump. Any stoppage of the discharge hose on the pump by kinking or otherwise would reverse the flow of potable water through the cooling system of the motor and force sewage under pressure into lines of the potable water supply.

#### DECONTAMINATION OF THE SCHOOL WATER SUPPLY

As soon as the engineers were aware that the water in the school was contaminated, the supply was cut off at the meter. To determine whether contamination had extended into the main, water samples were taken from outlets both proximal and distal to the school water line. The operator of the public supply was instructed to step up the chlorine dosage to the fullest extent of the equipment for the remainder of the day.

All spigots and drinking fountain outlets at the school were opened to full capacity and the distribution system thoroughly flushed for one hour. The meter was removed to allow placement of a chlorinator which was turned on at full capacity with all outlets "cracked" just enough to allow a trickle of water. This procedure began at 8:00 P. M. on Thursday, the day of the incident, and continued until 8:00 A. M. the following day. The system was again flushed at full capacity after which bacteriologic water samples were collected. A long section of pipe, including the spigot previously connected by the plastic hose to the centrifugal pump, was removed to determine whether there were deposits of sewage in the system. None was observed. The chlorinator was again placed in operation with all outlets "cracked." In the afternoon the system was flushed for the third time and a second set of samples taken. The chlorinator was again operated at full capacity with outlets partly opened until a very strong odor of chlorine was evident at all spigots, drinking fountains, toilets, and urinals. Outlets were then tightly closed and the system allowed to remain dormant (from Friday afternoon) until

the following Monday at 8:00 A. M. when tests showed no residual chlorine present. In the meanwhile, results from the first samples collected indicated absence of contamination and school was allowed to resume. Another set of 6 samples taken at this time showed bacterial counts of less than 10, gas in 2 of 10 cc. tubes of one sample, coli-aerogenes absent.

#### ABSENTEEISM

Figure 2 shows the school record of pupils absent each school day beginning three days before the incident and extending to six weeks after. Up until December 5th public health nurses checked all absentees either by home visit or by telephone. After December 5th inquiry was made by the Principal and School Secretary.

ABSENTEES IN PUPIL POPULATION OF 494

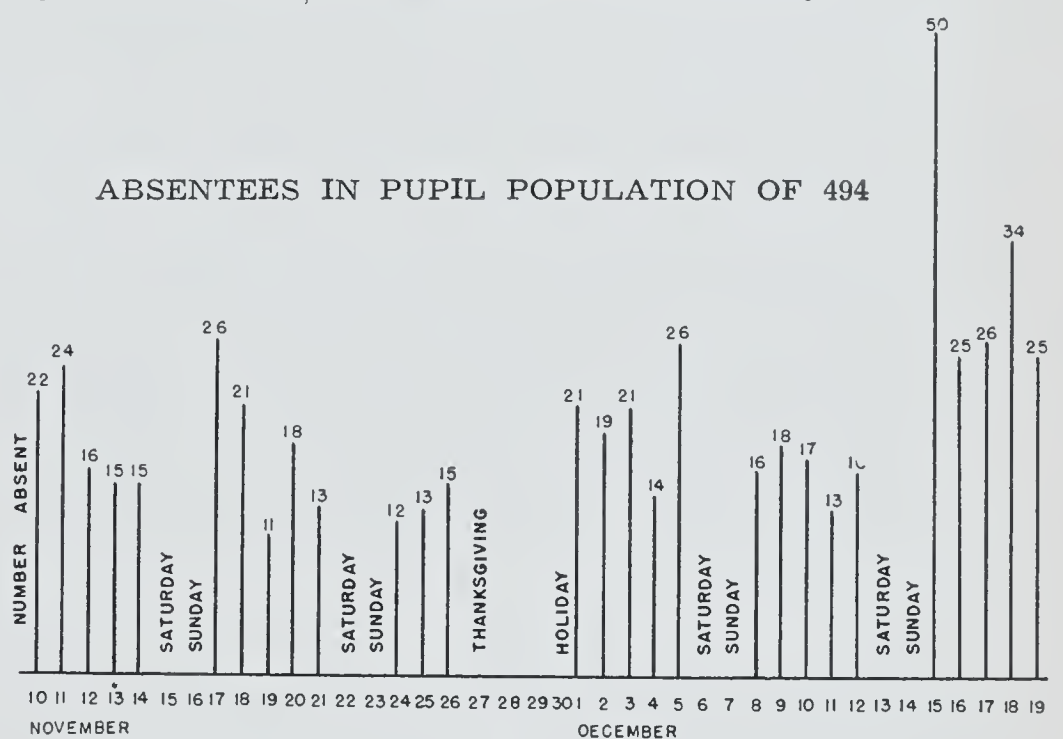


FIGURE 2

There were six cases of undetermined etiology in which there was mild diarrhea, usually accompanied by some vomiting, and with durations averaging two days. Onsets were as follows: One on the second day following the incident; three on the fourth, one on the fifth, and one on the sixth. The grouping of these cases within the first week of exposure may have some significance, although the number of such cases in a grammar school population of 494 is not unusual. Reasons given for absences included: colds, ate too much, measles, whooping cough, toothache, allergy, reactions to inoculations, family on vacation. On December 15th fifty pupils were absent largely to play in the snow or because of colds attributed to playing in the snow.

No cases of typhoid fever, dysentery, infectious hepatitis, poliomyelitis, or meningitis had been reported from the Center Point area by physicians for the six months preceding or the six months following the incident. None of these diseases has had significant prevalence within Jefferson County in recent years except infectious hepatitis, of which there were 74 cases in 1958, and 33 for the first quarter of 1959.



## DISCUSSION

The feeling of urgency following the first report of this incident prompted everyone concerned to organize for an all-out-effort to minimize what was fully expected to be a catastrophe. The attitude was to do everything possible but to remain practical.

There was no loss of time in creating good communication.

Physicians, hospital administrators, members of the Health Department staff, and school authorities were promptly notified in writing of what had happened, what was being done and what was to follow. All statements through public information channels, including the first, were over the names of the School Superintendent and Health Officer. Parents were told the importance of prompt immunization procedures but were not frightened into demanding the unnecessary and unreasonable. Much of this is credited to high quality reporting by the press, radio, and TV.

It is, perhaps, fortunate that contamination of the water supply was so plainly evident as to discourage drinking. Furthermore, early recognition also prompted immediate institution of immunization procedures. It is interesting to note that one teacher thought the bad odor of the water was due to over-chlorination.

The school PTA regimented the children, kept good order, and maintained records.

Immunization histories obtained after the first day's administration of vaccines indicated that 60 per cent of the children had already received three doses of poliomyelitis vaccine. No further inoculations of poliomyelitis vaccine were given; 897 children and parents completed the series of three inoculations of typhoid vaccine.

The value of administering vaccines after exposure has occurred is questioned and, although the practice is quite common, the usual situation is one in which it cannot be determined who has been exposed or when exposure to infection might recur. In this situation exposure was limited to pupils and teachers at school on a single day. Vaccinations were intended to protect against the development of secondary cases among familial contacts. However, it would have been most difficult to satisfy parents by giving vaccines to those not exposed to the exclusion of those who drank contaminated water. Both groups were included.

The fact that clinical cases of typhoid fever or poliomyelitis did not occur among the exposed would seem to indicate that neither typhoid bacilli nor poliomyelitis viruses were present in the sewage-contaminated water in infecting dosage.

Two years ago a legislative act was obtained requiring operators who make a business of cleaning out septic tanks to have a permit from the Health Department. This, of course, involves approval of equipment used. No thought was given to the need of extending this control to governmental agencies.

One side effect of the Center Point incident was a vocal and organized demand on the part of PTA members of a school in the general area of Center Point that immunizations be given to the school children in the belief that their school water supply was contaminated. There was undue prevalence of respiratory borne disease in the area, mostly common cold, measles, scarlet fever, and several cases of infectious hepatitis.

## SUMMARY

Gross contamination of a school water supply occurred as the result of a cross-connection between the potable supply and a septic tank through a centrifugal pump. The equipment was antiquated, and the operator unfamiliar with its use.

Available immunization procedures were instituted without delay. Good communication was maintained with co-operation and understanding at all levels. Aside from six very mild cases of diarrhea of short duration and undetermined etiology no outbreaks of disease occurred.

This experience serves to emphasize the cardinal principle that a cross-connection between a potable water supply and any sewage disposal system should not be permitted under any circumstances, nor should any hose or other connections for priming or flushing sewage appurtenances be permitted.

Regulations governing methods and equipment for cleaning out septic tanks should be broad enough to include governmental and non-profit agencies as well as commercial operators.

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Health levels in the Western world are at an all-time high, Health Information Foundation reports. The average life expectancy in the United States, England, France, and Sweden, for example, is now about 70 years—an increase of 20 years since 1901.

Western countries have shown remarkable progress in childbirth safety in this century. The maternal death rate is now only 4.1 per 10,000 live births in the United States, compared with 3.6 in Sweden, 4.8 in England, and 5.7 in France.

Deaths from communicable diseases have dropped sharply throughout the Western world in recent years. In the last three decades, for example, tuberculosis mortality has declined more than 90 per cent in the United States, England, and Sweden.

Since 1900, death rates have been more than cut in half in four Western countries. In 1900, the average mortality rate for the United States, England, France, and Sweden was 17 per 1,000 population; by 1958 the rate had dropped to just over 7 per 1,000.



**6,860 Students Receive M. D. Degrees in 1958-59**—In its annual comprehensive report on all aspects of medical education, the Council on Medical Education and Hospitals of the American Medical Association announced that the 1958-59 graduating class receiving the M.D. degree numbered 6,860, only one less than in 1957-58.

These two classes were the largest except for the 1954-55 year when the class was 6,977. The increase in that term was occasioned by including as graduates the 50 students completing the intern year then required by Stanford University.

According to the council's report, which appeared in the November 14 issue of the Journal of the American Medical Association, 43 medical schools had decreases in the number graduated while 34 schools experienced increases.

Women comprised 5.4 per cent of the graduating class and comprised 5.9 per cent of the Canadian 1958-59 graduating class.

Much of the council's report dealt with educational opportunities for the number of medical students considered adequate to satisfy medical service needs in a vastly growing population.

"To accomplish this task and at the same time maintain high standards of medical education represents a challenge at least as important as any problem facing medicine today," the A.M.A. report said.

The council indicated a need for 10,000 graduates a year from medical schools in the United States by 1975.

"The fundamental issue," the report said, "does not involve the question of which of various studies have resulted in the most accurate estimate of the need for increased numbers of medical school graduates. The basic and urgent concern is that all estimates indicate a need for expansion of educational facilities in medicine in a brief period which far exceeds any expansion of such facilities that has occurred in a similar period during modern times."

The council offered several methods which could be used to meet the need for expanded educational facilities in medicine, including increased capacity of existing medical schools, but then added:

"Care must be exercised that medical schools not be induced to expand beyond their capacity to maintain the proportionately increased teaching staff necessary to preserve high standards of education and research."

The council estimated that even though existing schools are expanded, "it appears likely that at least 10 new schools with an average graduating class of 100 students will be required" to meet the health care needs of an exploding population.

On the subject of medical students of the future, the council said that "medicine is finding increased competition for the pool of top-ranking students because it no longer occupies the unique position as a profession which it held in the past and shared largely only with law and the ministry. The professions open to the college graduate are now much broader, and they provide the prestige, intellectual satisfaction, and financial rewards comparable to those offered by medicine."

The council cautioned that "medicine must make active efforts to inform young people of the breadth of interests and challenges it offers or surely it will suffer a serious loss of the best young talent."

**Hypnosis Used to Treat Chronic Alcoholism**—Hypnosis appears to be useful in the treatment of chronic alcoholism, an experimental study has shown.

Appearing in the November 14 Journal of the American Medical Association, the preliminary report covering "a relatively small group of patients" was made by Dr. Michael M. Miller of Howard University Medical School, Washington, D. C.

Under hypnosis, an aversion to alcohol is created, so that "even a slight whiff or taste of alcoholic beverages might be sufficient to evoke a conditioned aversion reaction," he said. Such a patient will not consume alcoholic beverages if he derives no pleasure from them and actually finds that the smell, taste, and sight of alcohol upset him physically and emotionally.

Dr. Miller has used the treatment for 24 patients, whose duration of alcoholism ranged from three to 34 years. The average number of treatments was two and the average length of time they have remained away from alcohol has been six months.

Of the total, only three have relapsed so far. Eight attend Alcoholics Anonymous meetings and 18 are continuing psychotherapy.

"No claims are being made for this treatment as a cure-all for alcoholism," Dr. Miller said. "It represents only a procedure for attempting to control drinking so that constructive psychotherapeutic, social and economic rehabilitative steps can be taken.

"Alcoholism is symptomatic of deeper underlying disturbances of the personality, and there are probably as many diverse causes for alcoholism as exist for human unhappiness."

He noted that after the initial treatment about half of the patients tested themselves with alcoholic beverages and all developed prompt aversion reactions (nausea and vomiting) and discontinued further attempts.

If the patient is in a poor nutritional state or in need of medical care, posthypnotic suggestion can be used to facilitate his cooperation in remedial measures, the author said.

He also warned that the patients should be conditioned to avoid the use of sedative drugs and tranquilizers as a substitute for the alcohol. Alcoholics are particularly apt to develop dependency on habit-forming sedative drugs, since they are generally suffering from marked inner anxieties and guilt.

The use of hypnosis in the treatment of chronic alcoholism offers certain advantages over the use of drugs such as disulfiram (Antabuse). It can be used on an outpatient basis; it precludes the possible harmful effects of drugs; it can establish a reflex aversion much more rapidly and effectively without causing the patient as much discomfort and dread of treatment.

He warned, however, that the treatment must be conducted only by a psychotherapist who is well trained in hypnosis. "Hypnotherapy is a method that requires adequate comprehension of the dynamics of the unconscious mind," he said. "Much harm can be done by its misuse, and it must be used only with specific medical indication, never indiscriminately."

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## Editorials

### FATAL HEART ATTACKS MAY BE PREVENTED

The heart muscle of animals can be sensitized or conditioned, at will, to destruction by a great many agents. It can also be desensitized by certain chemicals to avoid damage. This knowledge may act as a future guide to the discovery of a chemical method of preventing fatal heart attacks in humans.

Writing a guest editorial in the October *New Physician*, journal of the Student American Medical Association, Dr. Hans Selye said: "The fatal heart accident is one of the most common and dramatic causes of death in man. It is well known from clinical experience that sudden cardiac death occurs most frequently after some acute exposure to stress, such as intense muscular effort or nervous excitement."

"However," Dr. Selye wrote, "in order to analyze the mechanism of a disease, it is essential first to reproduce a simile of it in experimental animals so that potentially dangerous treatments may be tested. This was not possible as regards the fatal heart accident because, even if animals are killed by stress, they die from reasons other than the so-called acute cardiac infarct or necrosis."

Recently, however, Dr. Selye and his colleagues at the Institut de Chirurgie experimentales, Universite de Montreal, Canada, succeeded in clarifying the conditions under which stress will regularly produce such sudden heart accidents in experimental animals. It has been found that rats, rabbits, dogs or monkeys pre-treated with certain hormones and electrolytic salts (sodium) do not develop a heart attack, but if following this treatment the animals are exposed to stress (for example, hot or cold baths, surgical injuries, forced muscular exercise, or restraint) they regularly developed acute heart accidents. Using this as a test, it was possible to show that in certain animals potassium chloride and magnesium chloride offer certain protection against heart accidents.

Admitting stress is hard to define, Dr. Selye calls it "the consequence of the rate of wear-and-tear in a biologic system." During the last 20 years it has been amply demonstrated that, in

response to a variety of stresses (trauma, infections, intoxication, nervous stimuli, etc.), the body reacts in a rather stereotyped manner by the secretion of certain hormones, such as ACTH and corticoids. The resulting excess in these "adaptive hormones" is an essentially useful defense reaction. However, under certain circumstances, it can become the cause of disease or, at least, predispose the body to the production of morbid changes.

It is hoped that because of this new-found means of preventing heart muscle damage due to stress in animals a chemical method of preventing heart attacks in man may soon be discovered.

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### BABIES LOVE SALAD OIL

A New Jersey dermatologist has pointed out that many baby lotions are 95 per cent water and that mothers might do better to substitute salad oils or shortenings.

Writing in the October issue of *GP* magazine, published monthly by the American Academy of General Practice, Dr. Seymour L. Hanfling specifically listed Wesson oil, Mazola oil, Spry, Crisco and Fluffo. He also said that unless the weather is hot, babies should be bathed twice a week, not once a day.

Dr. Hanfling, chief of dermatology at East Orange General Hospital, East Orange, N. J., corrected eight skin care fallacies.

The first of these relates to detergents vs. soaps. It is not true, Dr. Hanfling contends, that detergents are more irritating than soaps. The problem, he points out, is that women forget that detergents are more effective.

"Women must learn that detergent powders cannot be poured into the sink as the soap powders were. The proof of this is that a tiny capful of liquid detergent does a sinkful of dishes or washing," Dr. Hanfling said.

The second fallacy is that hand-washed diapers and infant clothes are safer for the baby than similar items that have been machine-laundered.

"Actually, it is impossible to hand wash, and especially hand rinse, any group of items as well



as our automatic washers do. If special safety is desired, the clothes may be run twice through the machine rinsing cycle. This results in four thorough rinses."

The New Jersey dermatologist also termed untrue statements that *nongreasy* preparations replenish lost skin oils.

"... the greasy preparations do nothing about replenishing the lost oils. They work on the principle of a chemical glove... which protects the skin from further irritation from moisture, soap, etc. If the damage is not too far advanced, the accumulation of the skin's natural oils beneath this protective layer will return the skin to normal. The silicone products are examples of this type of hand cream."

Dr. Hanfling said that all *greasy* creams and lotions are not of equal value. He pointed out that petroleum preparations, such as petrolatum and mineral oil, "cannot be absorbed and therefore cannot possibly nourish the skin."

Instead, he added, petroleum preparations have a protective function similar to that of the protective creams.

"The lotions contain 95 per cent water, the cold creams somewhat less. Few contain animal or vegetable oils that can be absorbed through the skin; as an example, those that advertise 'contains lanolin' may contain under 2 per cent. Actually, the use of an edible fat on the skin results in some useful replenishment of the skin oils. Some of the best are hydrous lanolin, the various salad oils, such as olive, Wesson or Mazola, and the solid hydrogenated shortenings such as Spry, Crisco or Fluffo. The availability of these two groups makes them among my favorites. As you can see, a nongreasy mixture cannot contain oil, and it is impossible to add nourishment to the skin unless that oil is absorbable. The lotions are less effective than the creams since they contain a larger percentage of water. The more water or air (as in vanishing cream) the faster the drying but the less the application can do for the skin."

Dr. Hanfling stressed that rubber gloves don't always solve hand irritation problems. When the gloves are worn the hands perspire profusely and the perspiration is irritating. He urged that rubber gloves not be worn for more than 10 or 15 minutes at a time and recommended that thin cotton gloves be worn under loose rubber gloves.

Continuing, the doctor said that babies don't need daily baths. He pointed out that babies and young children have little oil secretion and never develop "body odor." Except during hot weather, two baths a week are adequate. Mothers also should not encourage "long, fun-filled baths." Pro-

longed immersion dries the skin and should be discouraged.

Finally, Dr. Hanfling reminded his readers that all rashes aren't caused by foods. More than half of the infant eczemas are probably caused by irritations, not by foods.

#### TEENAGE VOLUNTEERS IN HOSPITALS

The maternity floor, operating and emergency rooms, and medical records should be off-limits to teenage volunteers in hospitals, according to a new booklet published by the American Hospital Association.

"A teenage volunteer program should be considered primarily as an educational procedure and part of the hospital's total community education program," states *The Teenage Volunteer in the Hospital*, a publication approved by the Board of Trustees of the Association. "Concern for the patient, legal implications, and the educational nature of the program are the prime factors to be considered in establishing standards."

"No teenager should be allowed to have prolonged or sustained patient contact or fill direct requests from patients," the booklet advises. "Nor should teenagers be assigned to any hospital-directed patient service outside the physical confines of the institution nor to any task which involves handling money."

As service areas where beginning teenage volunteers may assist, the booklet lists the central supply, library, coffee shop, linen department, mail room, and care and arrangement of flowers.

The publication suggests that only experienced young volunteers should work the admitting office and escort service, read to or feed patients, and accompany adult volunteers with gift carts and deliveries to patients' rooms.

The booklet recommends that young male volunteers assist in running mimeograph or ditto machines, operating movie projectors, and laboratory clean-up.

Among 10 mandatory restrictions and requirements listed are the consent of parents before enrollment, the meeting of health standards before acceptance, and nonparticipation in medication and treatment of patients.

"Ideally, teenage volunteer service should be limited to those between the ages of 16 and 18; but, contingent upon the duties to be assigned and the supervision available, the minimum age requirement may be lowered to 14," the booklet suggests.

"A firm policy on the minimum age requirements for teenage volunteers does not mean to imply that hospitals should ignore the potential



of children below the age of 14," it states. "There are many tasks, beneficial to the hospital, which the under-14's can undertake in supervised group activity outside the hospital walls, such as bandage rolling or making patients' tray favors."

"Viewed as an educational procedure, hospital volunteer service can provide an opportunity for young people to learn the moral satisfaction from constructive service to a community institution and thus develop a sense of civic responsibility which will benefit the community and the hospital."

This booklet is one of two publications on volunteer service mailed to the 7,500 institutional members of the Association. It may be obtained from the American Hospital Association, 840 North Lake Shore Drive, Chicago, at a price of 65 cents per copy. The other publication, *The Volunteer in the Hospital*, is available at \$2.35 per copy.

#### NEW ORLEANS GRAD. MED. ASSEMBLY

The twenty-third annual meeting of The New Orleans Graduate Medical Assembly will be held March 7, 8, 9 and 10, 1960, headquarters at The Roosevelt Hotel.

Nineteen outstanding guest speakers will participate and their presentations will be of interest to both specialists and general practitioners. The program will include fifty-six informative discussions on many topics of current medical interest, in addition to clinicopathologic conferences, symposia, medical motion pictures, round-table luncheons, and technical exhibits.

Following the meeting in New Orleans, arrangements have been made for a clinical cruise on the M/S Franca "C" to the West Indies, leaving from Port Everglades, Florida, on Saturday, March 12. The itinerary includes visits to Puerto Rico, Virgin Islands, Martinique, Barbados, Trinidad, Curacao and Haiti, returning to Florida on Friday, March 25.

Details of the New Orleans meeting and the cruise are available at the office of the Assembly, Room 103, 1430 Tulane Avenue, New Orleans 12.

#### NEW FELLOWS OF A. C. S.

Approximately 1,015 surgeons were inducted as new Fellows of the American College of Surgeons in cap-and-gown ceremonies closing the annual five-day Clinical Congress of the world's largest organization of surgeons. The A. C. S., founded in 1913 to establish standards of competency and character for specialists in surgery, has grown in 46 years' time from a founding group of 450 to a total membership of more than 23,250.

Fellowship, entitling the recipient to the designation, "F. A. C. S.," following his name, is awarded to doctors who fulfill comprehensive requirements for acceptable medical education and advanced training as specialists in one or another of the branches of surgery, and who give evidence of good moral character and ethical practice.

Those receiving this distinction from the State of Alabama at the 1959 Convocation were as follows:

#### Birmingham

Charles A. Carraway  
James M. Morgan, Jr.  
Brinson O. Robertson, Jr.  
M. Bruce Sullivan, Jr.  
William H. Viar  
James A. Ward, Jr.

#### Mobile

Howard Stephen Cowley  
Samuel P. Marshall

#### Montgomery

Richard A. Harris

#### AM. INST. OF ULTRASONICS IN MEDICINE

The American Institute of Ultrasonics in Medicine announces that the new president will be David Rubin, M. D. of Los Angeles.

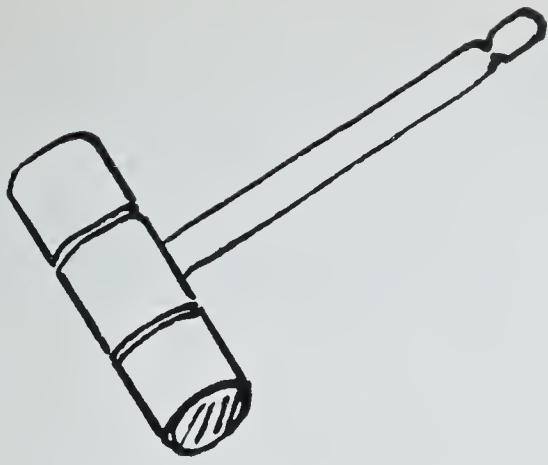
The new Executive Board will consist of the following:

David Rubin, M. D., Los Angeles,  
John H. Aldes, M. D., Los Angeles,  
Dr. William Fry, Urbana, Illinois,  
William Bierman, M. D., San Francisco,  
Karl Dussik, M. D., Boston,  
Jerome W. Gersten, M. D., Denver,  
Arthur Jones, M. D., Portland, Oregon,  
Col. John Kuitert, M. C., USA, Fort Lewis, Wash.,  
Ferdinand Schwartz, M. D., Birmingham, Ala.

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# President's Page

## SIXTY YEARS AGO

**W**HEN the Association met in Mobile in 1899, the Society's President said: "In the name of the Medical Society of Mobile County I bid you cordial welcome to this beautiful city. Your presence honors equally the profession and public. It is a rare and esteemed honor to have in our midst so many learned gentlemen who adorn the profession of medicine. By association and comparison of views, our individual discoveries and theories in medicine may be weighed, analyzed and tested. Observation and experience, skillfully guided, are our wisest teachers.

"No heroism is grander than that evinced by the physician in his manifold sacrifices to alleviate suffering. In sunshine and in storm, in light and darkness, in sickness and in health, he enters the sick chamber, encourages the weak, supports the feeble, and soothes the dying.

"We congratulate ourselves upon your presence here. We shall watch your proceedings with solicitous care."

An additional word of welcome was spoken by the Mayor of Mobile: "The purpose of nearly all conventions is for the good and well being of the people. They induce that liberty of thought and freedom of expression by which wise conclusions are reached. In the free and intelligent discussions of the many interesting and scientific subjects presented, you will be charmingly entertained. The able essays read in your hearing will afford food for thought and will almost monopolize your attention; still I desire you to know that our people are deeply interested in every thing that advances the cause in which you are enlisted. You may not be able to heal by a single touch, yet you can imitate the Great Physician by administering to the sick; for to the weary and depressed soul, the skillful physician brings comfort and good cheer so it may be said that the good doctor becomes a veritable angel in the home."

The Association's thirty-first president, Dr. Harry Altamont Moody of Bailey Springs, in his Message, said: "The power for good that resides in The Medical Association of the State of Alabama is beyond dispute. So long as its members are actuated only by a desire to promote the public

weal, and can demonstrate to their fellow citizens that such is the case, they will have the support of every respectable element in their respective communities. The public may be slow to recognize the truth but sooner or later it will be known. In the end he who sits selfishly at home, never exerting himself unless he can see a dollar to pay for it, will find himself a loser in the race for popularity and profit. Merit will win. The exceptions to this rule are few, and generally to be explained by the unexpected or hidden demerits which insidiously nullify other and more worthy qualities. A broad-minded physician, who never permits his duty to be measured by dollars, will sooner or later be recognized by the public as a safer guardian of health than the mercenary character whose first thought is always 'What will it pay?' The future of the Association is pregnant with possibilities. There is no similar medical organization in existence. To it is committed the duty of administering the sanitary laws of the State. While most other medical organizations are mere professional debating clubs, ours is an arm of the State government. It, and it alone, prevents the management of the health interests of the commonwealth from falling into the hands of politicians. It alone is charged with the duty of protecting our homes and firesides from the pestilence that walketh at noonday.

"Its structure is the most perfect that has ever been devised for the purpose, and though it may need a little change here and there to meet the vicissitudes of time, no revolutionary measures should ever be tolerated by any man who loves it. When we shall have more fully demonstrated our usefulness; when, throughout the State, members of county medical societies shall bestir themselves, individually and collectively, to make their influence felt whenever health matters are in question, then the means to carry out their patriotic designs will be readily appropriated by our General Assembly, and we shall stand in our legislative halls as counsellors, and not as beggars.

"The day will come when all this will be accomplished."

*W. R. Carter*





## ORGANIZATION SECTION

# AGING

## ... A Community Responsibility

Today the American public is being sold on socialized medicine under the disguise of the Forand Bill. At first glance the Forand Bill doesn't seem half as dangerous as the Murray-Wagner-Dingell Bill, but it is infinitely more dangerous.

The Murray-Wagner-Dingell Bill would have brought socialized medicine to the United States in one fell swoop. The Forand Bill is simply the down payment that would deliver socialized medicine on the installment plan. The Murray-Wagner-Dingell Bill never concealed its intent. The Forand Bill wears the look of innocence while concealing a derringer up its sleeve. The Murray-Wagner-Dingell Bill was a direct frontal attack. The Forand Bill is an effort to infiltrate from the flank.

Faced with the clear choice between socialized medicine and medicine practiced in freedom, the people of this country chose easily, quickly, and unmistakably. But unless they understand the implications of the Forand Bill, it is very possible that they will underestimate its danger.

It is up to our profession, as experts in the field of health, to read the fine print of the Forand proposal and explain it simply and convincingly to every American.

To inform the physicians of Alabama, and eventually the citizens of the state, of the dangers involved in the Forand-type legislation and to show them the lack of need and inadvisability of such programs, President William R. Carter appointed a physician in each of Alabama's nine congressional districts as District Key Legislative Men to work with the State Key Legislative Man

and the Association's Committee on Legislation in combating this challenge.

Appointed as District Key Legislative Men were Drs. E. L. McCafferty, Jr., District 1; J. A. Brantley, District 2; O. Emfinger, District 3; T. E. Bridges, District 4; Scott Vance, District 5; H. G. King, District 6; H. G. Hodo, Jr., District 7; C. A. Grote, Sr., District 8, and E. B. Glenn, District 9.



Dr. M. Vaun Adams, Chairman of the Committee on Legislation, (seated) discusses the utilization of materials in the new A. M. A.-prepared kit entitled: "Aging—A Community Responsibility." with five of the newly appointed District Key Legislative men. They are, (left to right), Drs. O. Emfinger, H. G. King, H. G. Hodo, J. A. Brantley, and T. E. Bridges.



The new appointees met with the Committee on Legislation at the state headquarters in Montgomery on November 2 and formulated a plan of action for the Association.

Special congressional district meetings were later held in Montgomery, Opp, Tuscaloosa, Ozark, Mobile and Jasper during the month. At these meetings educational kits outlining the medical profession's program on aging were distributed, and a strip-film-recording by Dr. Louis Orr, President of the American Medical Association, was presented.

The Forand Bill, Dr. Orr said, providing tax-subsidized hospital, nursing home, and surgical care for an estimated 12 to 13 million people, to be paid for by a compulsory tax on 73 million people, would swing open the gates to socialized medicine.

The Forand Bill, he continued, would graft service benefits of tremendous cost onto a program which so far has been limited to dollar benefits. In doing this, it would completely alter the nature and philosophy of the Social Security system.

Moreover, he said, enactment of anything like the Forand Bill would bring an immediate and continuing rash of politically expedient proposals to lower or eliminate the eligibility requirements, and to increase and expand the medical benefits.

It would be wise for all of us to remember that Great Britain started out with a so-called limited form of government health insurance and ended up with a completely socialized system of medical care, he said.

And certainly it is important for all of us to remember that when the federal government guarantees services which it cannot provide, it

inevitably tends to control the purveyors of these services, said Dr. Orr.

Granted that we do not like the idea, he said, it is a grim fact of life and it is our responsibility to face up to it bluntly.

And if we lose this battle, Dr. Orr pointed out, the American people and American medicine will have suffered a tragic defeat—tragic because American medical progress is linked irrevocably with the opportunity of doctors to work in an atmosphere of freedom.

When these freedoms are restricted or abolished, he said, the American people suffer, and American medical progress suffers.

Dr. Orr urged doctors to familiarize themselves with the Forand Bill, to discuss this legislation with friends and patients, to tell medicine's story to the community groups, to display in reception rooms AMA's pamphlet entitled "*Stay Young, Think Young*," cooperate in any way possible in the utilization of materials in the A. M. A.-prepared kit on aging, to appoint a special committee to stimulate the passage of a resolution against the Forand Bill, and to voice their convictions on the Forand Bill to their Congressman.

All of these actions, he said, will help alert the people of this country to the dangers which lie in political medicine.

Dr. Orr stressed that it is incumbent upon the medical profession to continue its positive program on aging, for being against Forand legislation is not enough. Defeating this pernicious proposal is vitally important, he said, but let us never forget that our main objective is, and always has been, to provide better health for the American people, the aged emphatically included.

# AGING

## . . . . Problems Aired At Public Relations Institute

Setting the stage for the opening of AMA's 1959 Public Relations Institute in Chicago in August, Leo Brown, Director of AMA's Communications Division, asked two vital questions:

Is medicine on the right track?

Is the non-scientific side of medicine keeping pace with scientific advancement?

Brown said these are questions other groups and institutions also are facing in this space age.

Caught in the cross-currents of conflicting political and social philosophies, organizations as well as nations are finding it necessary to reassess their positions and their policies, he explained.

Medicine finds itself once again fighting socialized medicine . . . this time wearing the garb of



social security hand out, Brown said. The possibility that this legislation may succeed is a very real one. The medical profession cannot afford to be a pufferbilly engine, chugging along lazily, impervious to the upheavals in the world around it, he remarked.

The alert, progressive and public-service minded men of medicine should be challenged by the problems of today, he pointed out. In addition, he said, to defeating legislation that threatens to undermine America's fine medical care system and educating people again to the excellence of our democratic free choice system, it is time for medicine to take a more intense interest in what people say are the problems in the health field.

Many a piece of legislation stems from what politicians claim is a desperate need. Well, let's find out if there is such a need. If there is, let's do something about it. If there isn't, let's tell people about it, Brown stated.

Medicine, he said, has the solutions to many of its current problems within its own hands. Physicians must do some creative thinking about the route medicine will travel in the years ahead and activate the men in the profession to play a more active role in developing resourceful programs and providing more community leadership, he noted.

Better to be an engineer on the medical train, carrying the responsibility for safe passage of those aboard, than the brakeman on the caboose, waving the flag too late, he said.

He concluded that probably no professional group is less selfishly motivated but is more criticized for selfish interest than the medical profession. He said community service is one important way medicine can identify itself with public interest rather than selfish interest.

In a "Meet the Press" session at the PR Institute, Aubrey Gates, director of field services for the AMA, said the problem of the health care of the aged must be circumscribed. It must be learned just how big the problem is and if it exists at all.

Joseph Stetler, director of the AMA Law Division, pointed out that a survey must be conducted to find out just how many persons over 65 lack adequate medical care and would be helped by the passage of Forand-type legislation. And, he added, how many persons are not now receiving adequate medical care. It is presently estimated that only about two million persons would benefit from Forand-type legislation . . . yet many millions would be penalized by this type of government program.

Dr. George Twente, Jackson, Miss., a member of the Council on Legislative Activities, felt there

is no great problem. We have been taking care of the aged for years and will continue to do so, he said. He also noted that many persons do not seek medical care because of superstition. Can we legislate against superstition?, he asked.

Gates noted that between 60 and 65 per cent of those over 65 now have health insurance. The remainder either want no insurance or are already on public assistance.

Another major point made by the panel was that physicians need to be spurred to greater political activity. Stetler pointed out that 97 to 99 per cent of physicians agree with the AMA opposition to Forand legislation; however, they express no active interest in the situation, he said.

State and county societies, as well as the AMA, must encourage physicians to be more actively interested in political matters, according to the panelist. The Forand Bill and similar health legislation have grown out of medical advances which have made people live longer; thus medicine itself helped create a political problem, Stetler said.

Three different views on governmental control of medicine were presented at the PR Institute meeting.

A German, a Canadian, and an American summarized the dangers of socialized medicine on the basis of their individual backgrounds.

The speakers were Rolf Schlogell, M. D., of Cologne, Germany, Secretary-General of the Organization of German Doctors Engaged in Health Insurance; B. E. Freamo, Toronto, Assistant Secretary (Economics), Canadian Medical Association, and Claude Robinson, Ph. D., Princeton, N. J., Chairman of the Board, Opinion Research Corporation.

Dr. Schlogell warned that we have already resigned ourselves in too great a degree to our fate by complying with the complicated machinery of today's social life in surrendering our individual freedoms in order to guarantee a frictionless living together as a whole.

Already many of us, he continued, have in this way lost the ability to judge whether or not the abandonment of rights and freedoms is worth the personal price we pay.

The German pathologist devoted most of his remarks to a critical analysis of governmental health services, which he defined as an institution that grants protection against disease to every citizen of the country, financed . . . from the state budget.

Because of the state's position in the health insurance of a nation, Dr. Schlogell said, it automatically loses its neutral position as a mediator between groups or between individuals.



Under government health systems, he pointed out, four freedoms are restricted:

1. The freedom of the patient to choose the doctor in whom he has confidence.
2. The freedom of the doctor to refuse further treatment to the patient if the confidence each has in the other—the psychologic basis in the healing of illness—is destroyed.
3. The freedom of the doctor to practice his profession according to the rules of medical art and science—free to select the suitable techniques in diagnosis and therapy and to reject those that are unnecessary or even detrimental.
4. The freedom of supervision of doctor by professionally qualified groups—free from the authoritative influence of laymen.

Mr. Freamo described the attitudes of Canadian physicians to government medical control by the phrase, "It can't happen here."

During the past two years, however, we have had to face reality: it can happen here, he said.

Governments have become more fiscally irresponsible, he continued. They no longer hesitate to implement a program just because we can't afford it. These reasons suggest the possibility that governments might, for reasons of political opportunism alone, implement a program of medical care insurance, Freamo said.

In Canada, he remarked, a system of federal government support of hospitals has won wide-scale public approval. Although the Canadian Hospital Association has gone on record as approving the plan, Freamo noted that the attitude of the medical profession varies widely.

He urged against anything which might deteriorate the quality of medical care or interfere with medical progress.

I cannot foresee that the art of medicine can possibly be enhanced under the conditions which must eventually be associated with government control. Further progress in the quality of medical care is not consistent with a program which must stress equality of care, he concluded.

Dr. Robinson said that since change is the order of the day in American society, the medical profession should anticipate change and lead it.

The status quo is yielding everywhere, he observed.

The immediate goals of both medical societies and individual physicians, in Dr. Robinson's opinion, should be to improve services and cut down on complaints.

Study the needs of the people, then meet them, he urged.

Every doctor must understand the public view as his own view, he said.

He suggested that physicians look on the struggle against socialism as basically a merchandising problem.

The key to successful selling is to study the needs of the people, show how your product is better than the competition's, and get your product before the people, he explained.

Your product is medical leadership—the doctor-patient relationship, he noted.

He warned that the competition in the medical marketplace today is offering an attractive bill of goods.

The principal competitor, the federal government, was described by Dr. Robinson as a clever competitor—one that says it will give the people something for nothing, he said.

He pointed out that the government already has prepared a health package for the veterans, a package for the old people. If they are successful with the old people, then they will have packages for infants, teenagers, newly-marrieds, then complete socialization of health care, he commented.

The government, he said, is emphasizing the positive approach and is using what we call the "hard sell" on the public.



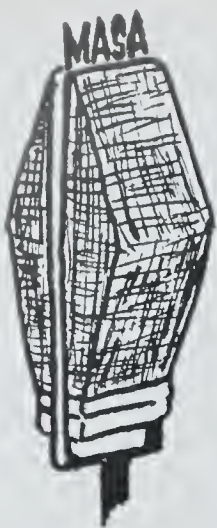
Three members of the Committee on Medical Education and Hospitals met in Montgomery on November 1, and discussed the overall program of the committee. Pictured above with Chairman John W. Donald, (center) are Dr. Luther L. Hill, (left) and Dr. Richard J. Grayson.

ANNUAL SESSION

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## ASSOCIATION FORUM

### SPECIAL INVESTMENT PROBLEMS OF PROFESSIONAL MEN



By Darwin S. Fenner

A partner in the investment firm of Merrill  
Lynch, Pierce, Fenner and Smith, Inc.,  
New York City

Nearly one-fifth of the clients of investment firms are professional men, and physicians and surgeons account for a big majority of this group.

According to a recent survey of the New York Stock Exchange, four out of six doctors today are direct owners of common stock. By the term "direct owner," I mean that the stock is held by the individual in his own name and not through a trust or mutual fund, or life insurance company.

The incidence of stock ownership of doctors is probably twice that of other Americans, but this is not surprising. The average income of doctors today stands quite high in relation to other occupations for they are freer to invest their cash. While it is sometimes necessary for doctors to make a capital outlay for their office, laboratory, or clinical facilities, they are not under the same pressure of maintaining working capital to the extent of an operator of a private business. On the other hand, it is important to doctors that they make their money work for them, for, being self employed, they do not yet have the same social security and pension benefits of incorporated business. In these respects the investment requirements of doctors differ from the normal. Every doctor expects to be financially comfortable when the time for retirement (or reduction of his practice) comes. Some strive for it . . . others merely hope. But the opportunity is open to all.

Despite this importance of investments to doctors, I am sorry to say that I do not find that they are especially successful in the handling of their money. This is no reflection upon men of your profession. I think it is undeniable that the real reason for this is that doctors devote so much of their time to the problems of their patients and the demands of their profession, and they do not have time to do justice to their own affairs. Perhaps it is a result of this that doctors are inclined to accept rather freely the advice of others—in many cases from men who are far less competent than they themselves in making investment decisions.

I have known instances where doctors made rather substantial commitments on the gratuitous suggestions of patients or associates. I have seen them enter in haste into some new speculative venture where the odds of success are too long for any professional man to consider. I have seen them buy into small companies, the stock of which was not marketable, thus "locking in" their investable money. This approach to investing without adequate investigation is unfortunate and unnecessary.

As a matter of fact, doctors are trained to approach a problem in the same dispassionate, objective, and analytical manner as an investment specialist. It seems to me if they would apply to their investments the same care and thoughtful approach that they do to their own professional work they would experience a much higher degree of investment success. If they need information and facts to reach a conclusion, it is readily available through the research department of the leading New York Stock Exchange member firms. No one knows better than a doctor just how important it is to rely on professional medical assistance. Isn't it just as important for the doctor to rely upon professional research in the vitally important matter of providing for his own financial security in the future?

In studying the portfolios of doctors, I have frequently found large holdings of mutual funds. I regard this as an indication that doctors are willing to pay very high prices (the equal of two years dividends) in order to have someone else



take from their shoulders the burden of investment decisions. Probably they are also convinced by the mutual fund salesmen that the broad diversification of these funds furnishes an extra element of safety. This diversification, which is the principal selling point of these funds, is far greater than any normal requirement of an individual. In fact, diversification of as many as 150 issues of investments only serves to average down the results of the portfolio. I doubt seriously if any careful investor can select more than a score of stocks today that are truly attractive and suited for the representation in a growth portfolio.

#### INVESTMENT PROGRAM FOR DOCTORS

It is my purpose to suggest to you an investment program that I think best fits the requirements of the medical man, and how these objectives can be fulfilled through self-administered security investments. Further, I want to touch on some of the newer developments in the pension and profit sharing field which might be available to medical clinics, and to illustrate how these funds might be invested to obtain the most in pension benefits.

To begin with, in investing you must sow in order to reap. You start by deciding which crop you wish to harvest and then be sure that you plant the very best seed available. This is another way of saying that you must know just what your investment objectives are and then you must select the right type of investments to fulfill these objectives. Generally speaking, investment objectives fall into three major categories—income, safety and growth.

**Income**—This investment objective can also be broken down between current income and future income.

**Safety**—By this we mean security of principal—can be further broken down between preservation of current dollars or preservation of the purchasing power of these dollars. Obviously, bonds (government, then municipal, then corporation) provide the highest degree of safety for preservation of current dollars. On the other hand, in the past ten years, the purchasing power of money has declined 25%, so that although the dollar amount returned on bonds remained the same, its value showed a significant decline.

**Growth**—or capital appreciation—by definition can never be found in bonds.

No two individuals have exactly the same investment requirements but, as a group, doctors come closer to having similar needs than do men in other fields.

Most investors find that their needs are not so clear cut, but what they want is a combination

of these objectives. Certain combinations are possible, but there is no “buck shot” prescription, as you medical men might term it, which will encompass all the objectives at one time.

To explain this, it is possible today to obtain a fair income ( $4\frac{1}{2}\%$  to  $5\frac{3}{4}\%$ ) from different types of securities, but generally at the expense of any growth prospects or capital appreciation. On the other hand, true growth stocks may carry returns of as little as 1% to 2%, yet they may carry some promise of higher income in the future and thus may be suitable to the income investor who is willing to wait five to ten years for the income. It is virtually impossible to combine safety with growth, yet safety can be found with income of  $4\frac{1}{4}\%$  to  $4\frac{3}{4}\%$  in marketable United States Government Bonds.

In the knowledge that the government has recently increased the interest on series “E” and “H” savings bonds from 3% to  $3\frac{3}{4}\%$ , it is logical that you might compare the relative merits of these with the marketable coupon bonds available. Savings bonds are undeniably best for those funds which must not be subject to fluctuation for they may be cashed according to a pre-arranged scale, but marketable bonds yield a full  $\frac{5}{8}$ ths of 1% more. Savings bonds have features which enable them to be turned in for cash at face value in the event of the owner's death. Issues of marketable bonds have features that permit them to be used at par (100 cents on the dollar) in payment of taxes. While this is not generally understood, your broker or banker can tell you which issues have these terms.

You gentlemen are the most perfect example of what we call long term investors, for you invest approximately ten years of your life in post-graduate study and training before the “pay out” period begins. Although it is estimated that doctors will earn between \$750,000 and \$1,000,000 during their working years, I venture to say it is not until a doctor is in his mid 30's that he can concern himself with the problem of excess funds. In this period of his relative youth he is not inclined to recognize how essential it is for him to have a long range plan towards his retirement objectives. I only wish that it were possible for all doctors to take courses in investment management at this stage of their career. Perhaps this is an area where the medical associations could be of particular value to the younger members of their profession.

#### IDEAL PORTFOLIO FOR DOCTORS

I have pointed out that we feel that the primary concern of the professional man is not to obtain income, but rather to build a sound retirement fund which he can fall back on when his earning



peak is passed. To achieve this, such a portfolio should be divided into three parts: 1. An emergency fund to meet the sudden requirements for cash; 2. An equity fund which should protect the purchasing power of the accumulated assets 15 to 20 years hence; and 3. An income section which would produce earnings which he could use to augment his standard of living and which could be adjusted to meet his needs. May I re-emphasize that we feel that, where doctors are concerned, income in the future is far more desirable than income now.

The emergency fund should constitute about 5% of the total portfolio, and should be invested in the most readily marketable securities—United States Government Bonds. We suggest at this time the attractive U. S. Treasury 5% maturing in August 1964, which have been the subject of so much recent newspaper accounts, and which currently can be bought to yield 4.75% to maturity. These bonds can be converted to cash on a moment's notice by sale through any bank or broker.

The "equity" section of the portfolio should amount to at least 50% of the fund and perhaps as high as 60% depending upon the individual's own situation. It should be invested in growth stocks.

At this stage you might like to have a definition of just what we mean by "growth stocks." Certainly we do not mean those which have a speculative or cyclical rise in price. Rather, we mean the stock of a company which is aggressively or imaginatively managed, one which is a leader in its particular field, and which has a long range underlying demand for its products. An excellent, if possibly overworked, example of a growth stock is International Business Machines which has demonstrated over and over again that "whatever its competitors can do, IBM can do better." It has multiplied its earnings five times in seven years, and its sales continue to rise at the rate of 20% more each year. Another illustration might be Minnesota Mining and Manufacturing whose sales have increased 80 times in a quarter century. We do not see how this rate can continue for these two companies for, as Mr. Watson of IBM said, "Each year a 20% rise in sales gets harder," but we do believe that IBM and Minnesota Mining both have a mighty growth ahead.

Other examples of growth stocks which we prefer are:

Chemicals—Dow and Monsanto.

Petroleum—Phillips, Gulf and Amerada.

Office Equipment—Pitney-Bowes and Haloid.

Drugs—Warner, Lambert and Searle.

The drug stocks are a group well known to you, and you have more experience with their products than most investors. Consequently, you are in an excellent position to judge their relative merits.

The income section of a doctor's portfolio, or the remaining 35%, should be invested in bonds. Tax free municipal bonds are most interesting to those whose income exceeds \$25,000 a year, and the higher the tax bracket the more important to the investor are the tax exempt securities. For comparison purpose, in the hands of a married man whose income is \$40,000 a year, an exempt bond with a 4% yield would be the equivalent of an 8.33% return on a taxable investment.

#### SELECT GOOD MARKETABLE BONDS

The bond portfolio must be well planned. It does not suffice just to buy Moody's "A" rated municipal issues. Bonds should be selected from those issues having good marketability. They should be bought in lots of \$10,000, or more, but never less than \$5,000, for less than \$5,000 is an odd lot that is difficult to resell. There should be a good geographical spread, that is to say that there should not be too much concentration in bonds of a particular locality. Maturities should be staggered so that every few years some bonds come up for redemption. This serves to keep the fixed income section of the portfolio from losing its value in periods of inflation, or high interest rates, such as we are experiencing today. In other words, low interest rate bonds bought in prior years can be reinvested in higher coupon bonds as they mature.

The most important part of the portfolio to the doctor in the final analysis is probably the equity section. I believe we are warranted in feeling that we may experience a dramatic improvement in business activity in the 1960's. This should be a period of expansion and construction of new plants and equipment, and one which will witness many remarkable developments in new products. While I cannot predict a repetition of the very rapid rise of earnings and security values of the 1950's, I do believe the 1960's—except for occasional interruptions in periods when the economy has overproduced or is restrained—will prove to be a period of excellent growth and that soundly planned longer term investments will fare well. Inflation will continue to be a problem, and I earnestly hope that the authorities will continue their efforts to hold it in check. The fact remains that we have experienced inflation ever since the country began its rise in productive ability, and probably will continue until our economy reaches maturity which, with good planning, can be far into the future.



No discussion of a retirement plan for doctors would be complete without a reference to the present status of qualified deferred compensation plans. At long last it begins to appear that the gross inequity in the tax treatment of self employed persons is in process of change.

### NEW TAX RULING

The first break in favor of the medical profession occurred in 1954 when the United States Court of Appeals for the Ninth Circuit decided the famous Kintner case. In this case Dr. Kintner, along with other physicians, had been practicing medicine for some time as a partnership. In 1948 the partnership was dissolved and an unincorporated association was formed. This association had the characteristics of a corporation and was treated as a corporation for tax purposes. The doctors' employees became eligible to participate in a pension plan. Nevertheless, the Treasury Department never issued regulations on the subject.

This year a Texas District Court decided the Galt case involving the Southwest Clinic Association. Here the Court held, without reference to the Kintner decision, that a medical organization of physicians operating a clinic may be taxed as a corporation because of its centralized management, control, and continuity of interest. This decision may spur the long awaited IRS rulings.

Often medical groups, particularly clinics, have failed to grasp opportunities already available. They can (as the Mayo and Cleveland clinics have before them) provide qualified retirement plans for their employees, doctors included, as long as they are indisputably employees and not employers. Qualification of these retirement programs provides tax advantages which no clinic should overlook. Among them are:

1. Deduction by the clinic (before taxes) of the normal cost of a pension plan—plus 10% of the past service liability here applicable. The total contribution permissible would be more than most clinics would care to deduct in a single year. It is true, however, that doctors' clinic can choose the amount it wishes to contribute, and that its consulting actuary can base thereon a most effective plan and benefits.

2. Complete tax exemption of the pension trust fund created under the plan. Neither income nor capital appreciation is taxed while monies reside in the fund. In short, taxation of retirement funds is deferred until monies are paid out, and then depends upon the method of payment to retired persons. (A lump sum payment in a single taxable year, for example, would be treated on a capital gains basis.) The trust fund may be

established by a corporate trustee (bank) or natural person (individual) trustees, who may be employees of the clinic and others. In either case, such firms as my own are prepared to provide a full range of services. These services include expert investment analysis and suggestions by a department which for years has served the trustees of pension funds—including some of America's largest.

3. Where past service liabilities are met, the prime beneficiaries are employees in their late forties, fifties, and sixties. In a smaller clinic, the majority of contributions would be effectively applied to key-doctors' pensions.

4. While the Internal Revenue Code sets maximum contributions, no minimum appears. Therefore, provided a plan were established with legitimate intent, and well run, it would be entirely possible to suspend payments for a time due to cause (lack of profits, for example). This flexibility is very apparent in well-designed, well-invested programs, where surplus funds are quickly generated as a cushion against unforeseen contingencies.

Very obviously, no clinic should enter into such a plan without the aid of a professional pension plan consultant and the assistance of its attorney.

### SELF EMPLOYED RETIREMENT PLAN

The most important pending legislation is that of the Keough Bill which permits professional men to finance their own retirement plans. This bill passed the House of Representatives in 1958, but has never been reported out of the Senate Finance Committee because of the opposition of the Treasury Department and the pressure of adjournment. The bill would permit a self employed person to deduct up to \$2,500 each year to be set aside with an insurance company, or with a bank trustee, and this money would be free of income taxes, the maximum deduction not to exceed \$50,000 over a twenty-year period. The earnings and the capital appreciation of these savings would also accumulate tax free, and the money would be taxed only as it is drawn out from the trust after age of 65. No provision is made for employees.

If pension plans are set up for employees, a major decision must be made as to whether the funding will be under an insured plan or a self administered trustees plan. The appeal of the insured plan is simplicity and a definite guarantee, but it must be obvious that these features are at the expense of benefits. A self administered plan trustee by a bank is so much more beneficial to the owners or beneficiaries that most new plans are being set up along these lines. The emergency section in such cases would prob-



ably amount to 10% or more, depending on the reserve needs in the first few years of the fund. The equity section would probably amount to no more than 30%, and the remaining 60% would be invested, not in tax exempt bonds, but rather corporate bonds, for tax exemption is basic in qualified pension trusts.

If I have succeeded in eliminating from your minds some of the feeling that investing is too complicated for the individual professional man to decide for himself, and if I have demonstrated that the rewards are worth the effort of self administration, then I feel that my mission here has been a success.

**Smoking Has No Effect on Cholesterol Level**—Smoking appears to have no effect on blood cholesterol levels, according to a study conducted by Dr. Irvine H. Page, Cleveland heart specialist, and two associates.

If smoking does play a role in causing heart attacks, it is not through any effect on cholesterol, the fat-like substance in the blood that has been implicated as a cause of heart attacks, they concluded on the basis of their study.

Writing in the November 14 Journal of the American Medical Association, Dr. Page said it has been suggested that cigarette smoking is in some way related to heart attacks and hardening of the arteries but this is difficult to prove.

Many investigators believe the evidence is good for an association between high cholesterol levels and hardening of the arteries. So if it could be shown that cigarette smoking is followed by a rise in cholesterol levels, this could be interpreted as evidence for a relationship between smoking and hardening of the arteries.

However, the new study failed to show a rise in cholesterol levels after smoking.

Twenty laboratory personnel, including 15 regular smokers and five nonsmokers, participated in the study. They smoked two non-filtered cigarettes within a 10-minute period, inhaling deeply. Blood cholesterol levels were measured before they smoked and at 10- and 30-minute intervals afterwards.

The levels remained "essentially unchanged" in most subjects. There seemed to be no greater variations in the habitual smokers than in the nonsmokers.

The lack of effect of smoking on the cholesterol levels in the nonsmoking persons was striking, the authors said. They had smoked two cigarettes with inhaling, and this could be considered to be "a not inconsiderable stress." At the end of the smoking they felt dizzy and chilly, but showed no cholesterol level change.

The study showed the relative stability of serum cholesterol levels, at least for short periods. The slight stress of blood drawing or smoking was not sufficient to modify them, the authors noted. The long-time effect of smoking on serum cholesterol is not known, but it is possible that varying cholesterol concentrations may result from changes in eating habits caused by smoking, they said in conclusion.

Dr. Page's associates are Lena A. Lewis, Ph.D., and Mohammed Moinuddin, Ph.D., of the Cleveland Clinic Foundation.

**Tranquilizer-Alcohol Combination Is Dangerous**—If a person is taking the tranquilizer chlorpromazine, he must be very careful about drinking alcoholic beverages, a group of Indiana researchers warned recently.

A study at Madison State Hospital, Madison, Ind., indicates that chlorpromazine increases the physiological effect of alcohol, and the two, in combination, affect coordination and judgment even more than alcohol alone.

Chlorpromazine, one of the first tranquilizers to be developed, is most commonly used in mental institutions and by discharged mental patients.

The alcohol-chlorpromazine combination is especially dangerous when a person drives, the researchers said. When a physician prescribes the drug, he must be sure to warn his patients of the possible danger of the use of alcohol, they said in a report in the November 14 Journal of the American Medical Association.

The researchers gave alcohol and chlorpromazine alone and in combination to 24 persons, including 18 hospital employees and six patients. They performed a variety of tests, including a tweezer dexterity test requiring that tweezers be used by the non-preferred hand to insert 16 steel pins in a square, a braking reaction time test, and a mental addition test.

All the subjects showed the worst scores after taking both chlorpromazine and alcohol. They made their best scores when they had received imitation pills and liquids.

The employees were asked to describe how they felt in each test situation. After the alcohol-chlorpromazine session, over 50 per cent reported they were sleepy and 40 per cent said they felt intoxicated or "groggy." These figures were twice as large as similar figures for the test situations in which they received alcohol or chlorpromazine alone.

Peculiar to the alcohol-chlorpromazine condition were such descriptions as "wobbly," "dizzy," "dull mentally," and "poorly coordinated."

At the last experimental session employee-subjects were asked, "If you had been driving an automobile instead of taking tests on the four test days, would there have been any one day when you would have been most unsafe as a driver?" Eighty-seven per cent picked the day on which they had both alcohol and chlorpromazine, while the remainder chose the day when they received alcohol alone.

The researchers were George A. Zirkle, Ph.D.; Peter D. King, M.D.; Ott B. McAtee, M.D., of Madison State Hospital, and Sgt. Robert Van Dyke of the Indiana State Police.

**Need for More Radiation Therapists Stressed**—The picture of a cancer-fighting doctor with the most modern weapons of physics and the radiological sciences at his command has been drawn by two cancer specialists who urge more physicians to consider specializing in radiation therapy.

Radiation therapy should not be considered merely a technical service to be administered by someone who understands the production of x-rays but who has little knowledge or interest in the problems of cancer patients, stated Drs. John O. Archambeau and Orlliss Wildermuth in the October 10 Journal of the American Medical Association. Rather, they said, radiation therapy is a clinical specialty, and the therapist is a clinician.

"At present," they added, "radiation therapy is in a vigorous growth period. Supervoltage machines, rotational therapy, and radio-isotopes have increased its versatility and applications. Until a breakthrough occurs in the treatment of cancer, we can expect continued growth and usefulness of radiation therapy. It is an uncrowded specialty, with only about 100 full time practicing clinical therapists. The need for therapists far exceeds their availability, and this lopsided situation is expected to continue."





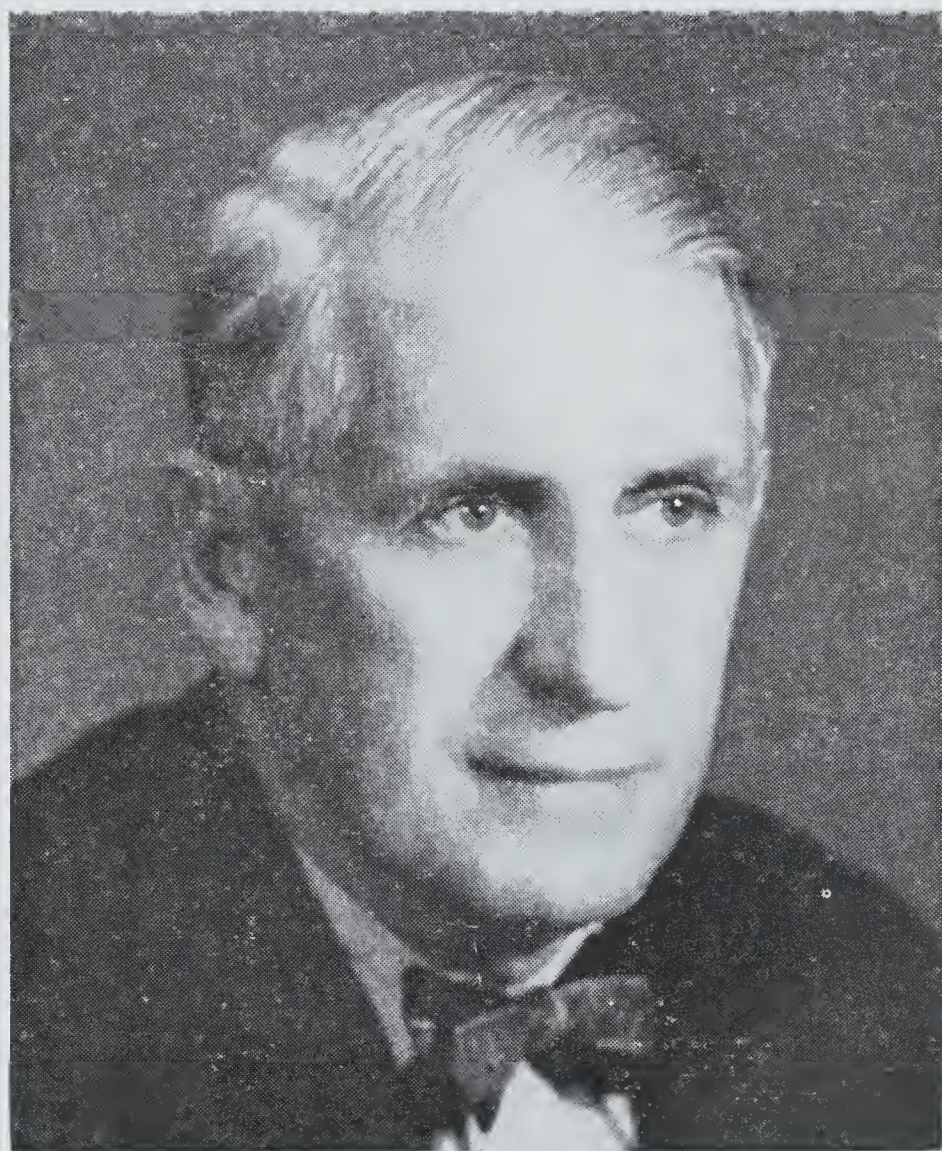
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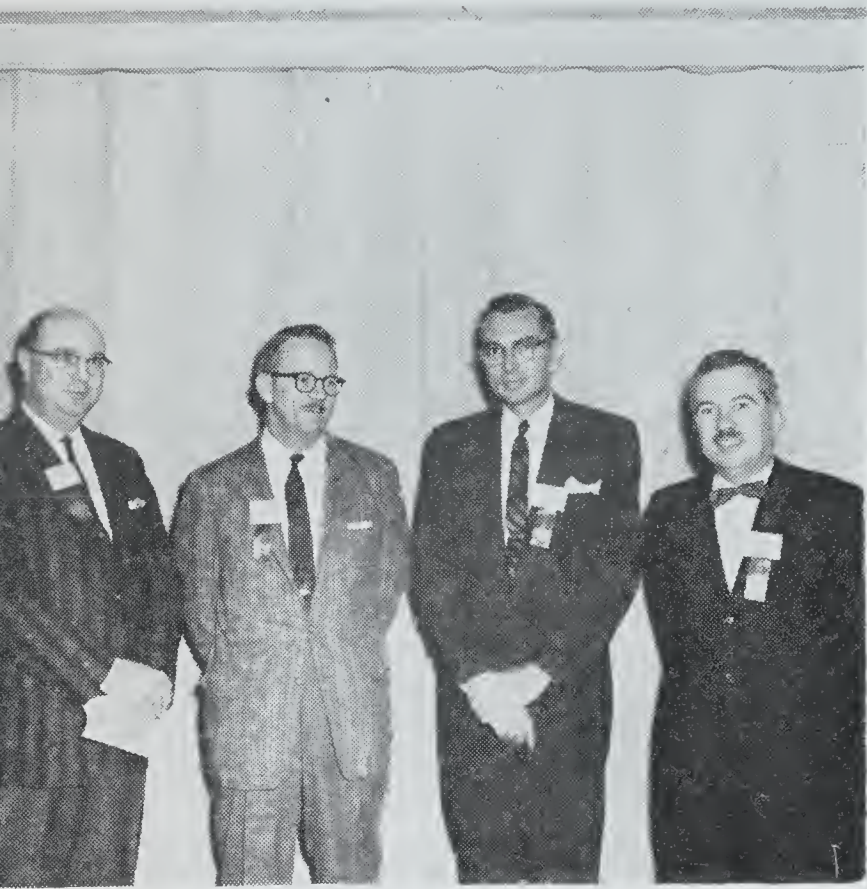
### AAGP'S 20TH POST GRAD SEMINAR

Alabama GP's attending the Alabama Academy's 20th Postgraduate Seminar in Birmingham on January 20-21 will hear Dr. Vernelle Fox, left, Medical Director of the Georgia Clinic for Alcoholism, Atlanta, speak on alcoholism. Mr. Hugh M. Comer, below, Chairman of the Board of Avondale Mills, Sylacauga, will be the banquet speaker. Dr. George C. Hamill, Chief of Radiology, Maxwell Air Force Base, Montgomery, along with Drs. A. M. Freeman, J. W. Simpson, J. N. Sussex, J. A. Ward, W. D. Warrick, A. I. Chenoweth, R. J. Sherer, S. C. Little, W. H. Kessler, A. D. Stephens, and T. M. Boulware, all of Birmingham, will participate in the program.

## AAGP's 20th POST GRAD SEMINAR

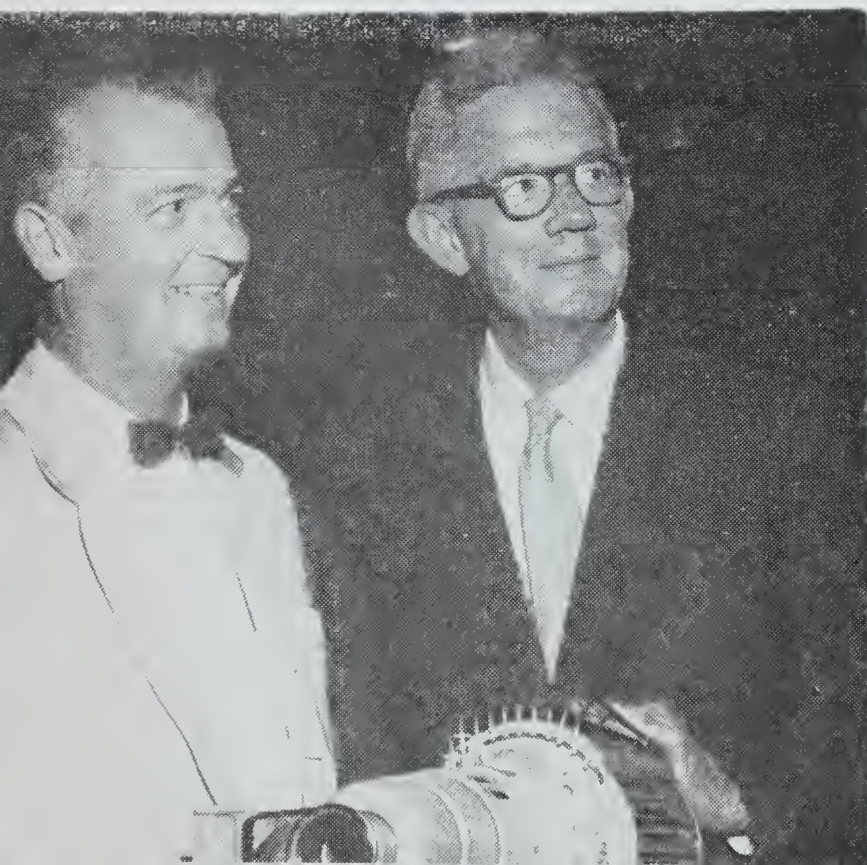
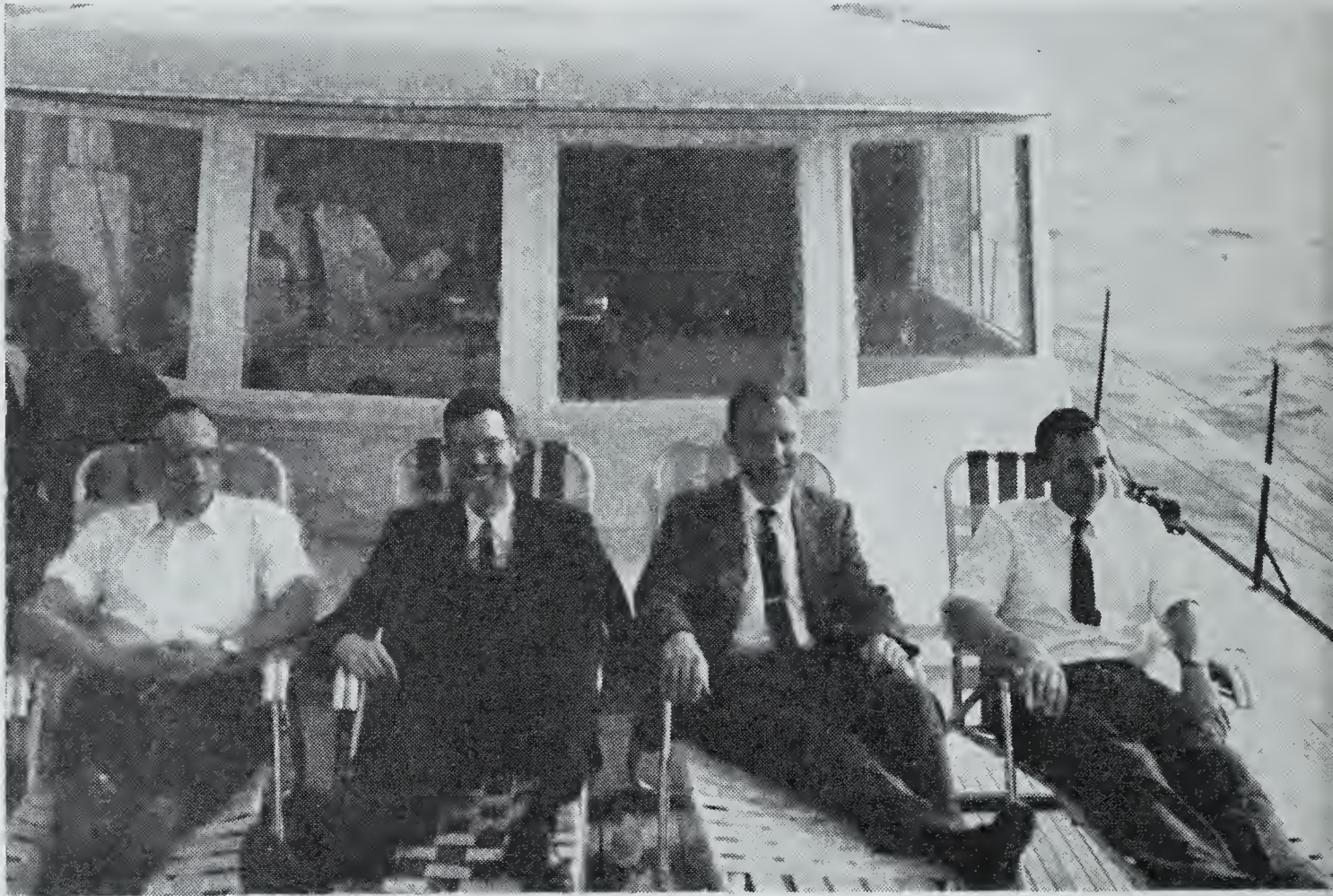






#### GULF COAST CLINICAL

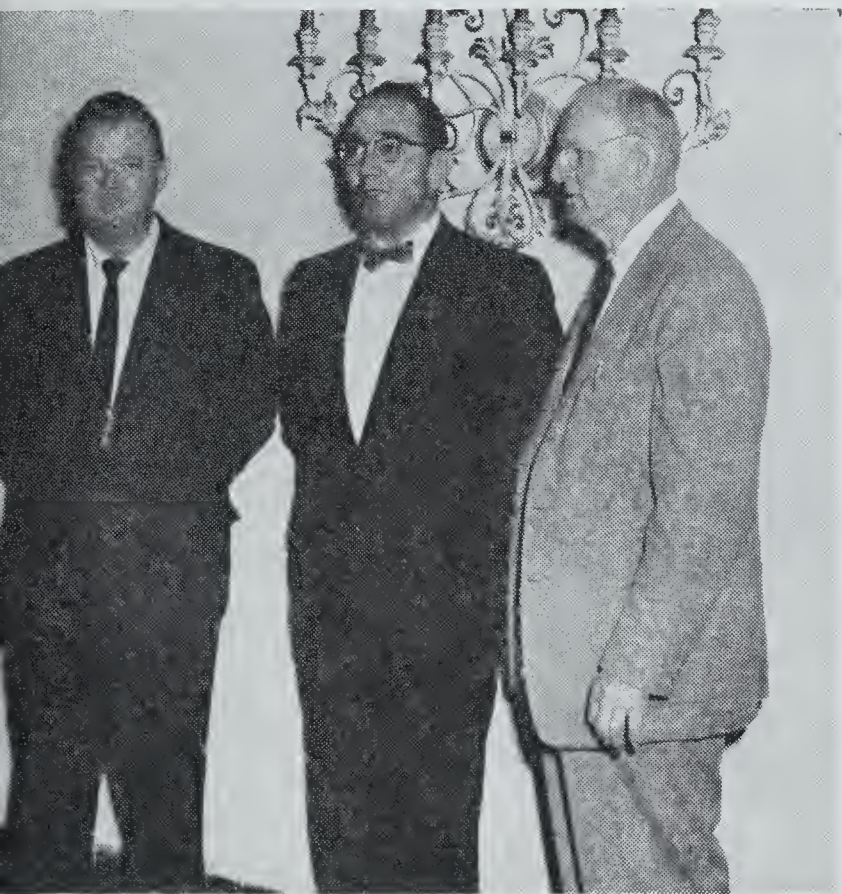
The newly elected officers of the Gulf Coast Clinical Society, President Charles D. Taylor, Pass Christian, Miss., and Dr. George W. Rogers, Gulfport, Miss., are pictured (left, left to right) with their retiring counterparts, Dr. William J. Atkinson, Jr. and Dr. Dan Sullivan of Mobile. Relaxing on the deck of Jamelle III are (left to right) Drs. Charles H. Hendricks, Western Reserve University; B. Woodfin Cobbs, Emory University; John L. Shapiro, Vanderbilt University; Calvin H. Plimpton, Columbia University, four of the participants in this year's program.



#### JEFFERSON COUNTY SOCIETY SPEAKER

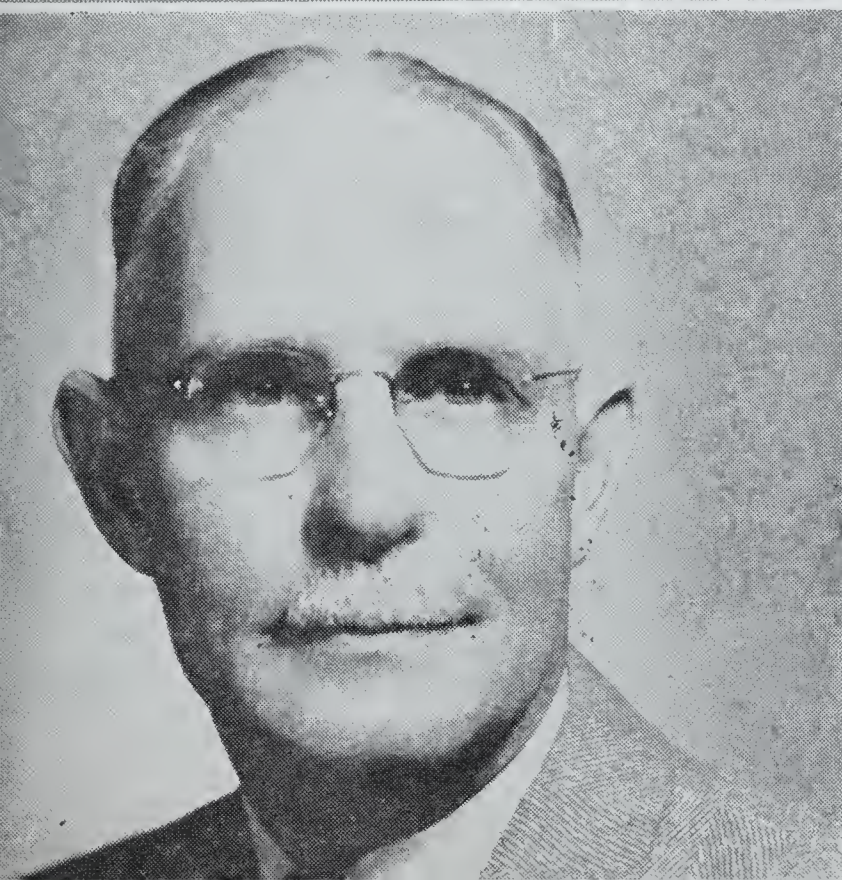
Nationally known for his "blue baby" operation, Dr. Alfred Blalock, Baltimore, Md. (left, right) spoke at a recent meeting of the Jefferson County Medical Society prior to delivering the second annual Tinsley Randolph Harrison Lecture at the Medical Center. Shown with Dr. Blalock is Dr. Joseph Campbell, President of the Jefferson County Medical Society.





#### OB-GYN FALL MEETING

Dr. O. M. Otts, President of Alabama Association of Obstetricians and Gynecologists, is pictured top left (left to right) with Dr. Abe Mickal, former All-American football player, and Dr. Joseph M. Weldon, past president of MASA, at the Ob-Gyn fall meeting in Mobile on Nov. 7th. Dr. Mickal along with Dr. Clarence G. Sutherland, Jackson, Miss., were guest speakers at the meeting. Dr. Sutherland is shown below discussing the latest clinical concepts of functional bleeding with (left to right) Dr. Theo Middleton, Dr. Cornelia Wilcoxson and Dr. Mattie Hyde.



#### DR. ANDERSON, CANCER PRES.

Dr. W. D. Anderson of Tuscaloosa (left) has recently been named president of the American Cancer Society, Alabama Division, Inc., to succeed Dr. John Day Peake of Mobile, who served as president for seven years.

Other officers elected included Redus Collier, Decatur, first vice president; Dr. Joe Donald, Birmingham, second vice president; and Henry P. Johnston, Birmingham, third vice president. Fred A. Duran, Auburn, is treasurer. Three newly elected directors are Dr. C. W. Neville, Birmingham; Dr. Houston Cole, Jacksonville; and Leslie H. Stuart, Mobile. Other directors are Dr. J. P. Chapman, Selma; Col. C. W. Daugette, Jr., Gadsden; P. O. Davis, Auburn; E. C. Easter, Birmingham; Dr. D. G. Gill, Montgomery; Dr. T. Brannon Hubbard, Sr., Montgomery; Cyrus Kitchens, Oneonta; Dr. J. O. Morgan, Gadsden and Dr. Howard Skipper, Birmingham.





## MEDICAL CENTER NEWS



TB SKIN TEST CONDUCTED  
BY STUDENT

A research project conducted by a medical student here during the summer employed a device never before used in Alabama and yielded rather significant results.

Walter Y. Walker, a senior, gave a tuberculosis skin test to some 380 patients admitted to University Hospital in certain staff services. The device used was a Heaf gun, a multiple-puncture apparatus which makes the TB skin test easier to administer than with the older Mantoux method.

According to results of the project, only 26 per cent of those tested had at some time contracted tuberculosis, although as sick people they might be expected to show a higher incidence of positive test results than would the general population. Only 25 years ago, about 80 per cent of the population was positive when given the skin test for TB.

Mr. Walker, who conducted this research under a grant from the National Foundation, later tested employees at University Hospital; but results of these tests have not yet been tabulated. Dr. Glenn Baird, professor of preventive medicine and public health, and Dr. Ben Branscomb, assistant professor of medicine, were faculty advisors for the project.

Significance of the test results lies in the long-

range possibilities for a program of testing the entire population, Mr. Walker pointed out. Any individual who has ever contracted TB reacts positively to a skin test, even though he may not have the disease in active form at all. An x-ray of the lungs is needed to identify an active case of tuberculosis. If it were still true that 80 per cent of all persons living in this country would react positively to a skin test, there would be little point in using such a method in a wide testing program, since x-rays would then have to be made of four-fifths of those tested.

But with only 26 per cent having positive reactions to the skin test, it might be possible to screen the entire population in this way and then follow up with x-rays, testing the families of those showing positive results as well as the reactors themselves.

An extensive testing program would be easier to carry out with the Heaf gun than with the older skin-test method, said Mr. Walker. He explained that the gun is faster, gives truer results through the uniformity of the depth to which the tuberculin is placed, and takes less training to give than the Mantoux test, which is intradermal. Also, the protoderm tuberculin developed for use with the Heaf apparatus may be kept for as long as one year, whereas the antigen used in the Mantoux method must be fresh. The Heaf test is said to be virtually painless, and positive reactions from it are less severe than from the Mantoux.

The gun, developed by Dr. Frederick Heaf in 1951, has been used very little in the United States and not at all in Alabama prior to this time, although it has been widely employed in England.

### PATIENT CARE, TEACHING, RESEARCH WORK OF THE NEW HEART CENTER

The Luther L. Hill Heart Center occupies the top floor of the Hillman Building of University Hospital. The big operating room and its ancillary units are designed to make efficient use of modern diagnostic, surgical, and monitoring equipment.

Adjoining the operating room is an observation station where medical and nursing students and staff members can watch heart operations through a large plate-glass window or on a television monitor. Just off the operating room and behind the observation station is the autoclave room,



where instruments are sterilized. Next to the observation room is the catheterization laboratory, a special diagnostic unit where precise measurements of heart function—on which the diagnosis rests—are made.

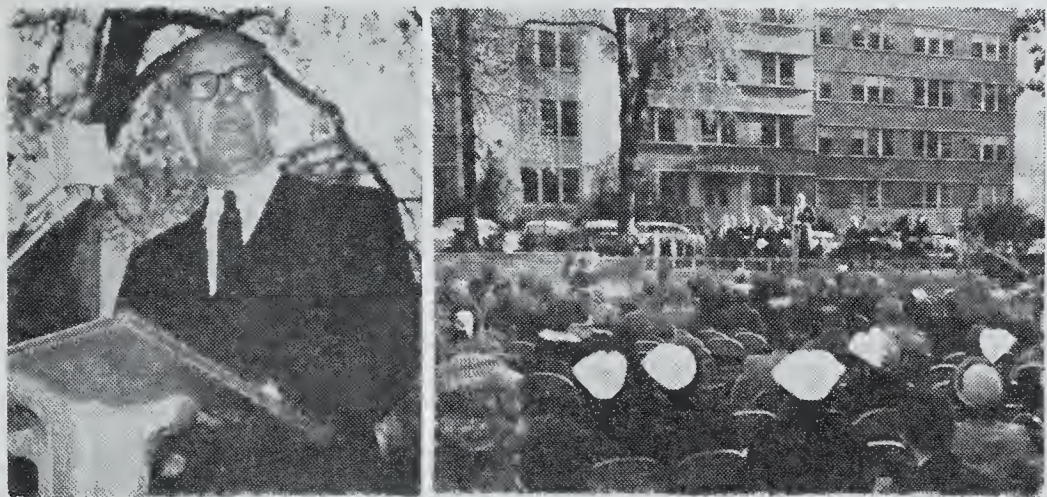
A chemistry laboratory containing equipment for automatic analysis of blood, a nurses' station, and instrument cabinets are located across the hall from the operating room.

Outside the doors to the operating area are a pump room, where the heart-lung machine is assembled, and scrub rooms for the surgical team.

Heart center personnel consists of surgeons and physicians, scientists, nurses, technologists, and social workers—all working together and each playing an important part in diagnosing and surgically correcting heart defects and diseases and in rehabilitating the patient after his convalescence.

Their efforts also serve in training health personnel and contributing to the extension of knowledge through research.

It is apparent that such a team can be supported only at medical center level and would not be economic at smaller community level. Private physicians are of first importance in the work of the heart center, for they refer to the center patients with special problems which may be handled there.



**HEART CENTER DEDICATED.**—Several hundred persons attended the ceremonies dedicating the Medical Center's cardiovascular unit to the memory of the late Dr. Luther Leonidas Hill, pioneer Alabama surgeon. The Hon. Lister Hill (left), son of Dr. Hill and senior U. S. Senator from Alabama, accepted the dedicatory plaque on behalf of the Hill family from Dr. Robert C. Berson (extreme right), University vice-president for health affairs. Guest speaker was Dr. Luther L. Terry, (at lectern), namesake of Dr. Hill and assistant director of the National Heart Institute. Others on the platform are Dr. Frank A. Rose, University president, who presided; Dr. Champ Lyons, chairman of the surgery department; Dr. William R. Carter of Repton, president of the Medical Association of the State of Alabama; Dr. Henry M. Edmonds; Dr. Guy McGowan, Highlands Methodist Church; Dr. Richard T. Eastwood, executive director for University affairs in Birmingham; Dean Joseph F. Volker, School of Dentistry; Matthew F. McNulty, Jr., University Hospital Administrator; Dr. Tinsley R. Harrison, professor of medicine; Gen. Luther Lyons Hill of Des Moines, Iowa, son of Dr. Hill; and L. L. Hill, grandson of Dr. Hill.

## MEDICAL CENTER BOASTS SEVEN DENTIST-PHYSICIANS

Holding several degrees is no novelty at the Medical Center, and 90 per cent of the faculty members have either a M. S. or a D. M. D. among their education credits.

But finding the two degrees in one curriculum vitae is a little unusual, even in this well-educated contingent.

Seven men on the faculty do have both, however, and for some varied and interesting reasons. The physician-dentists are Emanuel Cheraskin, chairman of the division of oral medicine and surgery; James D. Jones, assistant professor of anesthesiology; Frederick W. Kraus, associate professor of clinical dentistry and assistant professor of microbiology; Charles A. McCallum, Jr., chairman of the department of oral surgery; Gilbert J. Parfitt, professor of dentistry; Giuliano A. Quintarelli, assistant professor of dentistry; and Leonard Robinson, professor of dentistry.

With three of these men, getting both dental and medical degrees was simply something one had to do. Dr. Kraus, for instance, was born and educated in Czechoslovakia, where dentistry was a specialty of medicine. After getting his professional training (including postgraduate studies in Vienna, Austria), Dr. Kraus practiced as a general dentist in Prague for four years. He came to this country in 1941 and—his dental degree not being recognized in the United States—studied dentistry again, this time at Tufts College in Boston.

Dr. Kraus joined the staff here in 1953 as associate professor of clinical dentistry and became assistant professor of microbiology in 1954.

Dr. Parfitt, who comes from England, was required by tradition to earn a medical degree for a teaching career in dentistry. In most cases those who rose to superior positions on dental school faculties in England at that time had both degrees. His father, head of the dental school of Guy's Hospital in London, also studied both medicine and dentistry.

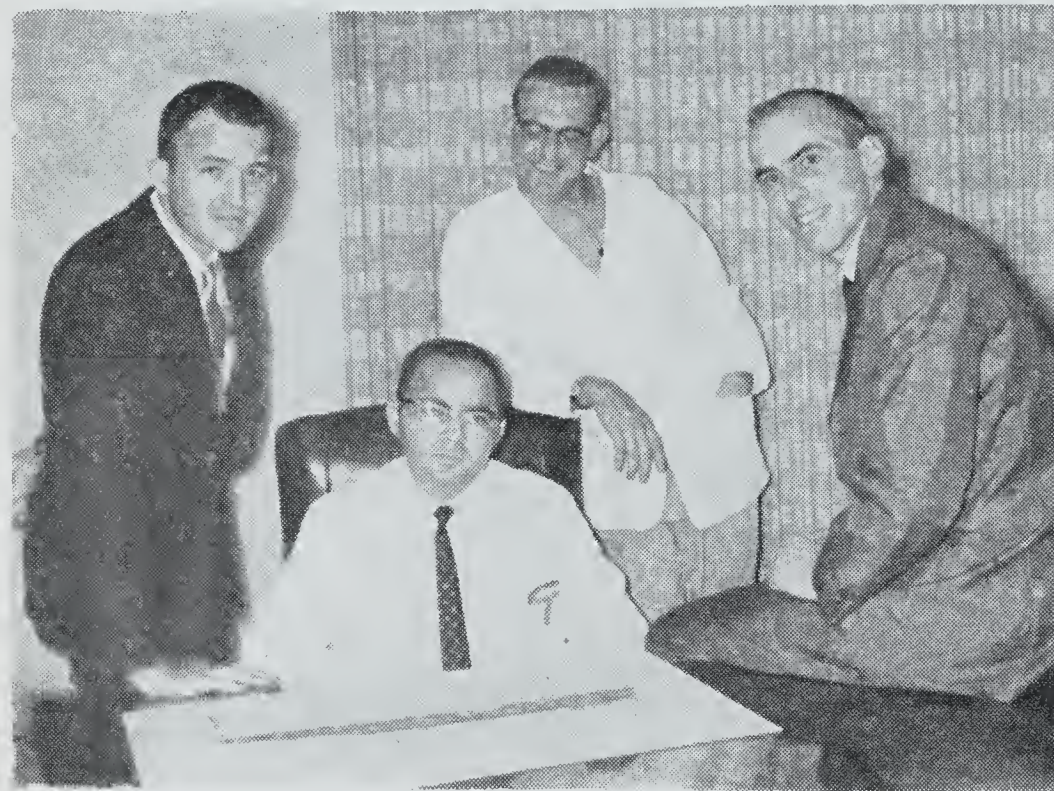
Dr. Gilbert Parfitt, who was interested in a teaching career, finished two years of medical school at Guy's Hospital, then took the dental degree before graduating in medicine (M. R. C. S.; L. R. C. P. in England). Between dental school and the last half of medical school, he practiced dentistry and took postgraduate work in orthodontics.

During World War II, Dr. Parfitt combined the knowledge in both fields to do maxillo-facial surgery in the Emergency Medical Service in his native land. After the war he became head of the periodontology and preventive dentistry depart-



ment at his old school; he came to the Medical Center in 1955.

Like Dr. Kraus, Dr. Quintarelli—a newcomer at the Center—is from a country where one first becomes a physician and then specializes in dentistry. And, like Dr. Parfitt, he is the son of a man who has both degrees and heads a dental school. Dr. Quintarelli's father is chairman of the School of Medicine's department of stomatology and dean of the School of Dentistry at the University of Padua, Italy.



**MEDICAL CLASS PRESIDENTS**—Heading the four Medical College classes for the current academic year are (left to right): Ed Young of Montgomery, sophomore; Dan Merck, Birmingham, senior; Beau Dunn, Wetumpka, junior; and Sam Fischer, Montgomery, freshman.

Dr. Quintarelli did his undergraduate work at the University of Padua, then went on to the University of Bologna for his medical degree, which he received in 1952. Two years later he was graduated *magna cum laude* from the dental school there.

Leonard Robinson, Charles McCallum, and James Jones went on to earn medical degrees after they had become interested in special fields through dentistry.

A Rhode Islander, Dr. Robinson received his dental training at Tufts College. He joined the School of Dentistry here as assistant professor of oral pathology in January of 1950 and—being interested in the field of general pathology—enrolled in the Medical College that fall. He was graduated in 1954, did his internship and residencies at University Hospital and the Medical Center pathology department, and was advanced to associate professor and then professor of oral pathology. He is now head of the oral pathology section of the pathology department.

It was specializing in oral surgery that led Dr. McCallum, also a graduate of Tufts College Dental School, to earn a degree in medicine. Com-

pleting his internship and residency in oral surgery at the Medical Center, he enrolled in the Medical College for a broader background in the healing arts since he wanted to stay in teaching. His first regular faculty appointment in the School of Dentistry came in 1956, and he was appointed chairman of the department of oral surgery in 1958 and advanced to full professorship this fall.

Dr. Jones' field is anesthesiology. A native of Greensboro, he received his dental degree at Loyola University. After practicing dentistry for several years, Dr. Jones started a preceptorship in anesthesiology with Dr. Ansel Cain in New Orleans. He then served as an anesthesiologist in private practice, on hospital staffs, and in the Air Force until June of 1953, when he joined the staff here. Wanting a broader background in general anesthesiology, he entered the Medical College, getting his M. D. in 1957, and interning at University Hospital in 1957-58.

Emanuel Cheraskin, a Philadelphian, got his preprofessional education at the University of Alabama. He returned to this state after studying medicine at the University of Cincinnati, practicing for a year in Moundville. Dr. Cheraskin came to the Center in 1948 and taught in the departments of anatomy and physiology before getting his dental degree in 1952. He headed the department of oral medicine from 1952 until 1956, when he became chairman of the division of oral surgery and medicine.

#### DR. BARNETT NAMED OB CHIEF

Dr. Robert V. Barnett has been named chief of obstetrics in the department of obstetrics and gynecology, succeeding Dr. Joseph C. Carmichael, resigned. Dr. Carmichael will continue with the department's clinical staff as associate professor.

Recently advanced to assistant professor, Dr. Barnett joined the Medical Center faculty in 1956 as instructor. He was graduated from Tulane University Medical School in the class of 1950 and did his internship and residency here 1951-54.

#### DR. SHIRKEY TO BE ON MEDICAL CENTER STAFF

Dr. Henry C. Shirkey, who will come to Birmingham the first of next year as medical and administrative director of the Children's Hospital of Birmingham, will also be on the faculty here.

With the academic rank of associate professor, he is to serve in the department of pediatrics, headed by Dr. Kendrick Hare.

Dr. Shirkey is now assistant professor of pediatrics and associate professor of pharmacology at the University of Cincinnati and director of pediatric services at Cincinnati General Hospital. He received his M. D. from that university in 1945.



## DEPARTMENT OF HEALTH

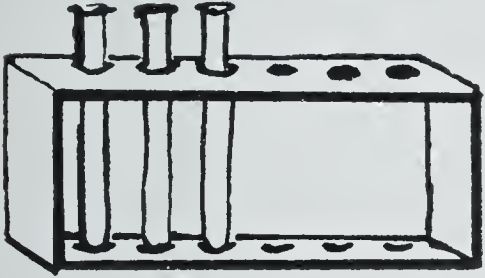
### DR. SENSENIG ADVANCES TO DEPARTMENT CHAIRMANSHIP

Appointment of Dr. E. Carl Sensenig as chairman of the department of anatomy was announced during October. He succeeded Dr. James O. Foley, resigned. Dr. Foley continues as professor of anatomy.

Dr. Sensenig has been on the University faculty a total of 14 years. Having served with the Medical College for two years as instructor in anatomy

from 1941 to '43, he joined the staff here in 1947 as associate professor after teaching anatomy at Johns Hopkins and Tulane University medical schools.

Dr. Sensenig's advancement to full professorship came in 1952. Now, as chairman of anatomy, he heads a department which instructs medical and dental students in both the undergraduate and graduate programs as well as conducting anatomical research.



## STATE DEPARTMENT OF HEALTH

### BUREAU OF ADMINISTRATION

D. G. Gill, M. D.

State Health Officer

### NURSING HOME CONFERENCE

There are many agencies and organizations other than the Alabama Nursing Home Association and the State Health Department which have direct or indirect interests in the operation of nursing homes. For example, many nursing home inmates are recipients of public assistance payments. Thus, the State Department of Pensions and Security is concerned with nursing homes. Under federal regulations, the Department of Pensions and Security can pay for nursing care only if the recipient is in a *licensed* nursing home. This agency, then, is vitally interested in the licensure program of the Health Department. The agency is further concerned because of the cost of nursing home care. Raising standards of nursing home care generally means that operators must increase their rates. The Department of Pensions and Security even now can pay only part of the amount it can budget for nursing care. As rates rise it becomes more difficult to find a means to provide this care for public assistance recipients.

Hospitals are also concerned with nursing homes. If enough nursing home beds were available, many patients who need nursing care but do not require hospitalization could be transferred to nursing homes, thus releasing hospital beds for the care of the acutely ill or injured. There is also a problem of transfer of patients between hospitals and nursing homes.

Nurses' associations and nurses' training schools are concerned because nursing homes need registered nurses. These groups are making a real effort to overcome the shortage of nurses which

works to the disadvantage of nursing homes as well as other facilities and programs.

Since nursing homes also employ licensed practical nurses, the State Department of Education becomes concerned. The training program for licensed practical nurses is under the Division of Trade and Industrial Education of this agency.

The realization that these and other agencies and individuals have related problems in the nursing home field led the State Health Department to sponsor an Inter-Agency Conference on Nursing Homes. This conference, which was the first of its kind in this country, was held August 12 in Montgomery.

Representatives of the following agencies and organizations were present: Alabama Nursing Home Association, Department of Pensions and Security, Alabama Hospital Association, Alabama Pharmaceutical Association, Medical Association of the State of Alabama, Alabama League for Nursing, State Department of Education, and the Birmingham Baptist School for Nursing. Representatives of the following divisions of the State Health Department attended: Hospital Planning, Chronic Disease and Aging, Dental Hygiene, Public Health Nursing, and Health Education.

Representatives of the U. S. Public Health Service were also present. Dr. Bruce Underwood, Public Health Service Consultant on Nursing Homes, gave the keynote speech. Other Public Health Service representatives attended to observe and to report to other states on the value of such a conference.

The conference plan was as follows: A spokesman for the Alabama Nursing Home Association and a spokesman for another agency each presented his group's views on a particular problem. The spokesmen then answered questions from the floor. Major topics of discussion were rules and



regulations, administrative problems, transfer of patients (between hospitals and nursing homes), training of personnel, and finances.

Finances and the training of personnel were the two problems which appeared to be of greatest concern to the nursing home operators. These problems are closely related to an institution's ability to comply with licensure regulations of the State Health Department. These problems have implications for all other interested agencies. While it was not possible to arrive at a solution for the problems, many promising avenues of approach were brought to the attention of the participants. For example, it was brought out that the Division of Trade and Industrial Education has funds, authority and personnel to develop and conduct training courses for nursing home aides below the rank of licensed practical nurse. The channels through which such courses may be obtained were outlined for the group.

As a result of the conference the Department of Pensions and Security has raised the maximum amount which it can budget for nursing care. This may result in higher payments in some cases.

It is believed that this conference was of real value to all who attended. Those present appeared to have gained better understanding of the problems, limitations, responsibilities and objectives of other agencies. It was the general consensus that similar meetings, some smaller, some with wider representation, should be held in the future.

BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

September 1959

Examinations for malaria	40
Examinations for diphtheria bacilli and Vincent's	129
Agglutination tests	610
Typhoid cultures (blood, feces and urine)	798
Brucella cultures	15
Examinations for intestinal parasites	3,505
Darkfield examinations	3
Serological tests for syphilis (blood and spinal fluid)	30,785
Examinations for gonococci	1,922
Examinations for tubercle bacilli	3,439
Examinations for Negri bodies (smears & animal inoculations)	273
Water examinations	2,304
Milk and dairy products examinations	4,479
Miscellaneous examinations	1,165
Total	49,467

This includes 1,332 specimens examined in the Dothan Branch Laboratory during the month of August, record of which was not received in time to be included in the report for that month.

BUREAU OF PREVENTABLE DISEASES

W. H. Y. SMITH, M. D., Director  
CURRENT MORBIDITY STATISTICS  
1959

	Aug.	Sept.	E. E.* Sept.
Typhoid and paratyphoid	0	1	8
Undulant fever	1	0	2
Meningitis	2	1	8
Scarlet fever	52	12	28
Whooping cough	23	24	33
Diphtheria	1	5	28
Tetanus	3	2	4
Tuberculosis	176	161	177
Tularemia	0	0	0
Amebic dysentery	2	2	1
Malaria	0	0	0
Influenza	32	6	77
Smallpox	0	0	0
Measles	18	2	27
Poliomyelitis	97	50	42
Encephalitis	4	1	3
Chickenpox	2	1	6
Typhus fever	1	2	3
Mumps	12	15	34
Cancer	975	588	418
Pellagra	0	0	0
Pneumonia	144	80	104
Syphilis	176	120	123
Chancroid	1	4	8
Gonorrhea	340	266	353
Rabies—Human cases	0	0	0
Positive animal heads	10	14	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director  
PROVISIONAL BIRTH AND DEATH STATISTICS  
AND COMPARATIVE DATA, JULY 1959

Live Births, Deaths and Deaths by Cause	Number Registered During July 1959			Rates* (Annual Basis)		
	Total	White	Non- White	1959	1958	1957
Live births	7117	4471	2646	26.0	25.8	27.7
Deaths	2226	1364	862	8.1	8.0	8.4
Fetal deaths	165	75	90	22.7	24.2	18.9
Infant deaths— under one month	145	82	63	20.4	23.6	22.6
under one year	210	102	108	29.5	31.1	29.4
Maternal deaths	9	1	8	12.4	9.8	11.9
Cause of Death						
Tuberculosis, 001-019	23	11	12	8.4	11.8	8.6
Syphilis, 020-029	5	2	3	1.8	2.6	1.1
Dysentery, 045-048	2	2		0.7		1.5
Diphtheria, 055					0.4	
Whooping cough, 056	2	2		0.7	0.4	
Meningococcal infections, 057	1		1	0.4		0.4
Poliomyelitis, 080, 081	3	3		1.1		
Measles, 085						
Malignant neoplasms, 140-205	277	184	93	101.1	107.3	110.3
Diabetes mellitus, 260	43	24	19	15.7	9.6	10.8
Pellagra, 281	1		1	0.4	0.4	
Vascular lesions of central nervous system, 330-334	313	189	124	114.3	108.1	123.7
Rheumatic fever, 400-402	2	1	1	0.7	0.4	1.1
Diseases of the heart, 410-443	760	516	244	277.5	252.6	262.0
Hypertension with heart disease, 440-443	133	53	80	48.6	44.3	49.2
Diseases of the arteries, 450-456	51	33	18	18.6	19.2	19.8
Influenza, 480-483	1	1		0.4	1.5	1.9
Pneumonia, all forms, 490-493	52	30	22	19.0	14.4	15.3
Bronchitis, 500-502	1	1		0.4	0.4	1.5
Appendicitis, 550-553	1		1	0.4	2.6	1.9
Intestinal obstruction and hernia, 560, 561, 570	7	5	2	2.6	4.0	5.6
Gastro-enteritis and colitis, under 2, 571.0, 764	11	3	8	4.0	4.4	6.7
Cirrhosis of liver, 581	12	6	6	4.4	6.3	6.7
Diseases of pregnancy and childbirth, 640-689	9	1	8	12.4	9.8	11.9
Congenital malformations, 750-759	30	18	12	4.2	6.3	4.3
Immaturity at birth, 774-776	57	30	27	8.0	6.3	8.4
Accidents, total 800-962	151	105	46	55.1	44.3	55.9
Motor vehicle accidents, 810-835, 960	62	51	11	22.6	21.4	29.1
All other defined causes	312	163	149	113.9	140.5	139.7
Ill-defined and unknown causes, 780-793, 795	99	34	65	36.1	31.0	32.0

Rates: Birth and death—per 1,000 population; Infant deaths—per 1,000 live births; Fetal deaths—per 1,000 deliveries; Maternal deaths—per 10,000 deliveries; Deaths from specified causes—per 100,000 population.





## BOOK REVIEWS

**The Family Medical Encyclopedia.** By Justus J. Schifferes, Ph. D., with a Medical Advisory Board of Eight Physicians. Illustrated by Louise Bush, Ph. D. Cloth. Price \$4.95. Pp. 617. Little, Brown & Co., 34 Beacon Street, Boston 6.

This little book is a very excellent compilation of medical facts presented in easy, understandable language. The book repeatedly emphasizes that the family physician should be consulted in all instances of a medical problem. It is edited by a first rate medical staff, one of whom is the editor of the Journal of the American Medical Association. In the front there is a small emergency index for quick reference to such items as insect bites, heart attack, rupture, etc. The bulk of the book is committed to defining the various terms in an encyclopedic fashion, and at the end is a calorie counter which is well done and the one complied by the Metropolitan Life Insurance Company. It is the opinion of this reviewer that this book can be recommended to the patients of the physicians of this state as a handy index for reference to medical terms.

E. Fred Campbell, M. D.

**Synopsis of Treatment of Anorectal Diseases.** By Stuart T. Ross, M. D., F. A. C. S., F. I. C. S., Diplomate of the American Board of Proctology; Secretary of the American Board of Proctology; Fellow and Past President of the American Proctologic Society; Fellow of the New York and Pennsylvania Proctologic Societies; Honorary Fellow of the New Jersey Proctologic Society; Corresponding Member of Sociedad Brasileira de Proctologia. Cloth. Price, \$6.50. Pp. 240, illustrated. The C. V. Mosby Company, St. Louis, 1959.

This little book is a succinct synopsis of the anatomy, physiology, symptoms, signs, and treatment of anorectal disease. As stated in the foreword, "Theories have been omitted, abstruse discussions avoided and bibliographic references intentionally excluded." The material is well organized, lucidly and capably written, and covers all aspects of the field of proctology in a didactic manner, giving the author's methods of approach to each problem, methods that, by and large, are generally agreed upon today.

If one desires such a manual in a small, well bound edition I don't believe a better one could be found. The author says in the preface that the book is written to help the man in general practice and to serve as a guide for medical student, intern, and resident. Certainly the general practitioner who is interested in proctology would find this book frequently useful and for this it is highly recommended. Since this reviewer is opposed to didactic teaching of the medical student or resident, I can see no place for such a synopsis during one's formal education, but this is, of course, a personal opinion.

T. Brannon Hubbard, Jr., M. D.

**Surgery of the Foot.** By Henri L. DuVries, M. D., Clinical Instructor in Surgery, Chicago Medical School; Attending Surgeon, Columbus Hospital, Mother Cabrini

Hospital, and Frank Cuneo Hospital; Chairman, Department of Surgery, Illinois College of Chiropody and Foot Surgery, Chicago. With foreword by Karl A. Meyer, M. D., and introduction by Edward L. Compere, M. D. Cloth. Price, \$12.50. Pp. 494, with 403 figures. The C. V. Mosby Company, St. Louis, 1959.

That few doctors are interested in the foot or sympathetic to those who suffer with foot problems is evidenced by the fact that the chiropodist prospers. For this reason there is certainly a place for a volume which covers with completeness and enthusiasm all surgical problems related to this organ. The general practitioner, surgeon, or orthopedist might, therefore, examine this book and consider buying it. I cannot, however, recommend it unreservedly.

It is not a scholarly book, and when the subject matter leaves the basic anatomy of the foot, it becomes almost anachronistic. For example: "The malignant or rodent ulcer is a slowly growing variety of squamous cell carcinoma (basal cell carcinoma). The skin and subcutaneous tissues of the area slowly erode. It resists all forms of medical therapy." Nor is it clear for whom the book is intended. Considerable space is occupied by such sentences as: "A suture is primarily a splint or ligature; as a splint, its function is to hold tissues in coaptation until union has taken place. As a ligature, its function is to act as a pursestring around a vessel." A few chapters later one finds rather detailed descriptions of methods of tendon transfer, obviously meant for a man ready to do the procedure.

In summary, this book covers all anatomic abnormalities of the foot, probably in greater detail than one can find elsewhere. The writing is not, however, of high intellectual or scientific calibre and for this reason it cannot be recommended without qualification.

T. Brannon Hubbard, Jr., M. D.

**501 Questions and Answers in Anatomy.** By Stanley D. Miroyiannis, Ph.D., F.A.A.S., F.I.A.S., Professor of Anatomy and Chairman of the Department, Still College, Des Moines, Iowa; with an introduction by Ernest V. Enzmann, Ph.D., Associate Professor of Histology and Embryology, Still College. Cloth. Price, \$5.00. Pp. 332. Vantage Press, Inc., 120 West 31st Street, New York 1, 1959.

In his introduction Dr. Enzmann says that "This new book . . . has been designed as a specific aid to all types of medical students. . . . The volume contains questions and supplies concise but adequate answers in such a way as to save the student the trouble of searching through pages and pages of standard text. . . . Though primarily designed to fit the needs of the medical student, the new book will also be of value . . . to all those who need Anatomical Knowledge."

The book is admirable for the purpose for which it is intended.

Douglas L. Cannon, M. D.



**The Modern Family Health Guide.** Edited by Morris Fishbein, M. D., formerly editor of the Journal of the American Medical Association; Editor Excerpta Medica, and Medical Editor of Britannica Book of the Year, and 26 contributing specialists. Cloth. Price, \$7.50. Pp. 1001. Doubleday and Company, Inc., 575 Madison Avenue, New York 22, 1959.

This is a new home reference volume of medical advice and guidance. The list of sub-editors is impressive and includes twenty-six noted authorities in various fields. The book is a large one and very complete. The first section includes such items as the meaning of health, a note about the problems of the modern physician, the body and how it functions, diet in health, and occupation problems, and then takes up specific disorders. Part two takes up the problems of infancy and adolescence. Part three is concerned with the heart and has a very excellent section on congenital heart disease. Part four considers the major diseases. Part five discusses disorders of the digestive system. Part six is a miscellaneous one including endocrine disorders, diseases of the skin and allergy. Part seven takes up the problem of mental illness. Part eight lumps arthritis and geriatrics together. Part nine is a very excellent section on medical statistics. Part ten is a very well-organized section on first aid, with a very ready reference system.

This first section takes up forty per cent of the book. The last sixty per cent is a very inclusive and well-written encyclopedia. Terms are defined and discussed. The language is written for the average layman and I feel that this book could be well recommended by any physician to a family requiring such a health guide.

E. Fred Campbell, M. D.

**A Cookbook for Diabetics.** Recipes from the A. D. A. Forecast. By Deaconess Maude Behrman. Paper. Pp. 172. Published by the American Diabetes Association, 1 East 45th Street, New York 17, 1959.

This handbook is the best compilation of dietary facts and recipes that I have ever seen. In the very front of the book, the counting of calories is explained very basically, and easily readable lists of exchanges are then included. Exchange lists within each component of carbohydrate, protein and fat, as well as interchange lists are given. There is also a handy section on flavors telling how to get the most out of the various foodstuffs in the way of delightful taste. The remaining bulk of the book is given to recipes, each with its own calorie content. There are twenty-one separate chapters and these include various low caloric desserts, holiday menus, and canning fruits without sugar. The only possible criticism of the book might be that it does not take into account the most recent advance in dietary thinking for the diabetic, namely, low-fat cooking. At the present time the low-fat (and thus high carbohydrate) feeding of the diabetic is almost in the experimental stage although one might predict that it will be the standard concept some ten years hence. For the present this is an ideal diet book for any diabetic.

E. Fred Campbell, M. D.

**Relaxation and Exercise for Natural Childbirth.** By Helen Heardman. Ed. 2. Revised and re-edited by the Obstetric Physiotherapist's Association of the Chartered Society of Physiotherapy. Paper. Pp. 31, illustrated. Price, 75 cents; quantity discounts available on request. B. & S. Livingstone, Ltd., Edinburgh & London, 1959. The Williams and Wilkins Co., Baltimore 2, exclusive U. S. agents.

While addressed to mothers and fathers, this book will prove useful also to those conducting classes in preparation for motherhood. It is "an attempt to satisfy the enquiries of expectant mothers and fathers as to how natural childbirth can be achieved. Relaxation technique and exercises are therefore set out in terms simple enough to be followed without further help. The mother's part during labour is also described."

Obstetricians would do well to provide each of their patients with a copy of the book.

Douglas L. Cannon, M. D.

**Uranium Milling Safety Rules Outlined**—Even though uranium compounds are probably no more dangerous than lead or mercury during mining and milling, they still "should be treated with a good healthy respect," according to an Atomic Energy Commission report.

Appearing in the November Archives of Industrial Health, published by the American Medical Association, the report said the "cavalier treatment" exercised by many employees in uranium processing plants indicates a complete lack of respect.

These employees should be instructed in sound health and safety procedures, the report said.

It is a summary of a health study of uranium mills conducted by W. B. Harris, A. J. Breslin, H. Glauber-man, and M. S. Weinstein, of the AEC Health and Safety Laboratory, New York.

The mining and milling of uranium ore presents one of the most important potential hazards in those industries involved with radioactive materials, the report said. It is one of the fastest growing industries within the whole radioactive material area.

Commercial deposits of uranium ore are widespread, with eight western states having significant reserves of the ore. The milling of uranium ore is assuming the proportions of a fairly large business, the report said.

In 1950 there were six uranium mills employing something under 1,000 persons. There are now 20 such mills and in the very near future there will be 25, employing about 4,000 persons. When the study was conducted in 1957, there were 12 mills.

Most of the radiation readings taken in the plants indicated acceptable radiation levels, the report said. However, the exposure to radioactive dust was in general higher than is permissible. Better ventilation would correct this in most cases, the report said.

Another hazard found in the plants was that from ordinary chemicals. This hazard exists in all metallurgical operations and must be handled according to the type of chemical.

In addition to recommendations for improving exposures in specific areas of the mills, the report listed several general recommendations. These include:

—The entire premises should be routinely cleaned to remove all settled dusts from the floors, walls and rafters. This is done best with vacuum hoses, although wet cleaning may be more practical in certain areas.

—Until adequate ventilation is provided, all operators should wear respiratory protective equipment while performing dusty operations.

—The operators should not eat in the plant processing areas.

—Limited access—to authorized persons only—should be maintained in all ore and tailings storage areas. They should be posted and fenced.

—Care should be taken to limit the discharge of solid wastes to local ground waters. This part of the study is continuing.



**"Social Diet" for Weight Reduction Prescribed**—You can diet and your friends don't even have to know about it, according to a New York physician.

A "social" diet—in which you eat normally with only a few modifications—was described by Dr. Milton Plotz in the July 25 Journal of the American Medical Association.

The modifications include the following:

—Not more than one slice of bread is to be eaten at any meal.

—At breakfast, cereal or one slice of toast—not both—may be eaten.

—Variety can be added to the lean meat, green vegetable routine at dinner by small portions of rice, noodles, cracked wheat, or spaghetti, a small baked potato, or portions of peas or lima beans.

—No gravies are to be added to food.

—Portions of everything should be reduced by about one-quarter, and "seconds" are not to be taken.

—Desserts should consist of one portion of fresh fruit, one ounce of any suitable cheese, or a small slice of angel food cake.

On this routine, almost every determined patient will lose weight, Dr. Plotz said. In 100 successive patients, this routine resulted in a reduction of about 1,400 calories a day, he said, adding, "In many instances, the patient's friends—and sometimes his family—did not know that he was on a diet."

Dr. Plotz noted that the dietary management of obesity "is evolving today in much the same way as that of diabetes some 20 years ago."

In the treatment of diabetes, the use of highly artificial diets with special preparation, with special or even exotically prepared dietetic foods, and food substitutes has been superseded by diets resembling normal diets as closely as possible.

A similar evolution is taking place in the management of obesity; artificial and complicated routines are being replaced by those which throw less burden on the patient's family and which enable the patient to be a more acceptable member of society.

Diets cannot be prescribed for a short time, Dr. Plotz said. The dieter must realize that he will have to change his eating habits for a long time—perhaps for life.

The dieter at first may need the help of a drug in suppressing his appetite. When newer eating habits are well established, the supportive medicine can often be withdrawn.

Dr. Plotz is associated with the State University of New York, Medical Center at New York, and Kings County and Goldwater Memorial Hospitals.

**New Treatment Outlined for Esophageal Lye Burns**—The serious consequences of swallowing lye can be prevented by the use of antibiotics and artificial hormones, two Delaware doctors reported recently.

In fact, the treatment—combining tetracycline and prednisone—produced "uniformly good" results in 13 children who had swallowed lye-containing substances.

Lye, which burns the esophagus when swallowed, is the fifth leading cause of poisoning among those under

19 years of age, Dr. Charles L. Miller and Robert O. Y. Warren, Wilmington, said in the July 25 Journal of the American Medical Association.

After the lye is swallowed, the esophagus becomes swollen and inflamed, which interferes with swallowing. This is followed by a period of normal swallowing until scar tissue gradually forms and obstructs the esophagus. Untreated, the esophagus completely closes and the patient dies of dehydration and starvation.

Until recently treatment consisted of surgery or the mechanical opening of the esophagus.

Now the daily oral doses of antibiotics and steroids help heal the burns and prevent the development of scar tissue.

Feeding tubes were used for the first three days. After that the children ate soft diets for three weeks before returning to general diets.

None of the 13 children showed any narrowing of the esophagus after treatment. Follow-ups three months to three and a half years later also showed no subsequent narrowing.

In conclusion, the doctors said, "Despite the fact that the more severe consequences of lye ingestion can be averted with proper and early treatment in most cases, it is still a serious problem."

"The real answer lies in the field of prevention, especially through dissemination to the public of information about the dangers inherent in leaving poisonous substances within the reach of children."

**Simple Paper Test Shows Antibiotic Effectiveness**—A piece of paper that turns red under certain situations can now be used by doctors to decide what antibiotic to give for an infection.

The simple test involves the use of filter paper impregnated with a chemical that turns the paper red when bacteria grow on it. It is described in the July 25 Journal of the American Medical Association.

The test works this way: The filter paper is divided into several areas. Small quantities of individual antibiotics are placed in each division. Then the paper is swabbed with infectious material taken from the patient. The paper is sealed in a plastic bag and heated.

If an antibiotic inhibits the growth of the bacteria causing the infection, the paper remains white. But if an antibiotic does not work against the bacteria, the bacteria grow and the paper turns red.

The doctor then knows that the drug to give the patient is the one that keeps the paper white. The time required for the test depends on the number of organisms in the infectious material, but it usually ranges from three to 12 hours.

According to the authors of the article—Wayne L. Ryan, Ph.D., Howard J. Igel, B.S., and Perry T. Williams, M.D., Omaha—the test is simple and rapid enough to be used in a doctor's office, where the majority of patients with infections are treated.

The bacteria-inhibiting abilities of antibiotics are regularly tested in hospital laboratories by the use of test tube and agar plate tests, but these are time consuming, complicated, and expensive.

The authors feel that their test is easy to read, accurate, convenient, and relatively inexpensive.



### OUTLOOK MARKEDLY IMPROVED FOR STROKE PATIENTS

An estimated two million persons who have suffered strokes are alive today, and the outlook for stroke patients has "markedly improved" in the past five years, a New York heart specialist reported.

In an interview reported in the November *Today's Health*, published by the American Medical Association, Dr. Irving S. Wright, Cornell University Medical College, New York, said that, even in 1954, "the approach of the medical profession was one of hopelessness. It was just too bad but the stroke patient was stuck with what he had."

Now, he added, "a great catalytic movement is taking place." Hundreds of researchers are working in the field of strokes, and both knowledge and treatment of stroke conditions have advanced a great deal.

Dr. Wright said that figures from a 10-year study by Columbia and Cornell Universities and Bellevue Hospital on treatment of the acute phase of first strokes "suggest that for survival alone there's an improvement of about one-third by using anticoagulants in treatment of thrombosis."

The figures, he added, are almost the same as those from a study of the treatment of coronary thrombosis with anticoagulants made under the auspices of the American Heart Association.

Anticoagulants activate blood enzymes which tend to disintegrate blood clots. For long-term treatment, they can be taken orally, Dr. Wright said.

Tracing the development of strokes, Dr. Wright pointed out that they are caused when a blood vessel supplying the brain becomes clogged, usually with a blood clot. Innumerable combinations of brain and body damage can occur. Depending upon which area of the brain is affected, a person may have a stroke without knowing it. When blood from a clot leaks into the brain area, a hemorrhage occurs.

Men, especially those with hardening of the arteries, seem to develop stroke symptoms earlier than women, he added. The sex difference tends to even up to some degree after menopause because women lose protection from their hormones.

"Anticoagulants will be much more widely used,

as with heart disease," predicted Dr. Wright. "I think it can be said that the risk of a second stroke can be reduced markedly by keeping the patient on anticoagulants, provided that the original stroke was due either to an embolism coming from the heart or to a clot forming within the brain."

Anticoagulants should never be given to a patient with a hemorrhagic or "bleeding" stroke, he cautioned.

Dr. Wright made these other observations about strokes:

**Rehabilitation:** "Workers are most enthusiastic about their ability to get the patient to utilize muscles and nerves which are intact. Further studies are underway. But the patient must still know he is wanted in order to have the will to get well."

**Stress:** "Some physicians have taken the position that heart attacks, like strokes, are largely produced by . . . stress in our civilization. I doubt this. The evidence for this is poor and there are many other factors, such as hormones or diet, for which the evidence is far better."

**Diet:** "I don't think we're yet in a position to advise a drastic change in our national diet." However, obese persons or those with high blood cholesterol should keep their fat and cholesterol intake down.

**Exercise:** "Physical exercise within reason is good for people. The evidence suggests that this does them no harm and may even help to protect them against heart attacks and strokes. After such attacks, of course, activity has to be well controlled."

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### RAVDIN REPORTS ON CURRENT TREATMENT OF BURNS

The many ointments recommended for the treatment of major burns are of "little practical value," according to Dr. Isidor S. Ravdin, Philadelphia surgeon.

In a report prepared for the American Medical Association's Council on Drugs, Dr. Ravdin said, "In fact, many of the agents which have been used to promote healing have been shown to be detrimental to epithelization."

"The only worthwhile place for a specialized burn ointment (if such an ointment exists) seems to be on a small superficial burn for the immediate relief of pain," he continued.



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## SUBTLE SIGNS AND SYMPTOMS OF CONGESTIVE HEART FAILURE

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The onset of congestive heart failure may not be heralded by classic symptoms and signs such as dyspnea on exertion, paroxysmal nocturnal dyspnea, peripheral edema, pulmonary rales, distended neck veins and hepatomegaly. Given underlying heart disease and a basis for congestive heart failure, symptoms or signs which might ordinarily be overlooked assume importance, and permit early institution of effective therapy.

For example, weakness may at times be the initial complaint in the patient with congestive heart failure and represents inadequate cardiac output to the muscles.

Example: H. J., age 43, had noticed weakness for three months and finally developed paroxysmal nocturnal dyspnea. There was no complaint of chest pain and serial electrocardiograms were nondiagnostic. However, he was thought to have arteriosclerotic heart disease and at autopsy had old and recent myocardial infarcts with congestive heart failure.

Another consequence of inadequate output are the symptoms of dizziness, somnolence and confusion which may occur in the patient with associated cerebral vascular disease.

Example: J. B., age 44, had had previous myocardial infarction. He developed

a persistent cough but had no complaint of dyspnea. Multiple cough preparations were of no use and finally the onset of frank pulmonary edema forced the diagnosis upon his physician.

Asthma beginning in middle life should be viewed as cardiac in origin until proved otherwise. It may be due to chronic lung disease but frequently it may be due to left ventricular failure or mitral stenosis. Both asthma of pulmonary and cardiac origin may occur on effort and nocturnally and may respond to epinephrine and aminophylline. At times digitalis and diuretics may be necessary to determine the cardiac origin of the wheezing. When both diseases coexist such a therapeutic trial may be essential.

At the onset of pulmonary edema in the interstitial phase there may be anxiety, restlessness, increased pulse rate, increase in respiratory rate, and increased perspiration. At this time there may be no rales on auscultation and the unwary may be misled to a diagnosis of "hyperventilation syndrome." If a chest x-ray is taken, one may see the telltale evidence of interstitial edema. One should be cautious in attributing symptoms to hyperventilation in the cardiac.

Insomnia due to Cheyne-Stokes respiration is commonly overlooked as a symptom of early left ventricular failure. It is a frequent experience for the physician to prescribe more sedation, such as barbiturates or opiates, with consequent aggravation of the

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Read before the Alabama Heart Association, Point Clear, June 27, 1959.

The author is Professor of Medicine, Emory University.



symptoms. They may be alleviated by therapy directed to the heart. The following letter from a patient is illustrative:

"I am having a peculiar ailment and none of the doctors I have consulted seem to know what causes the trouble. Neither do I think they believe me when I tell them my trouble. About ten months ago I began to develop breathing trouble about 5:00 o'clock in the morning—I apparently stop breathing and that continues until I get up and stir around until I am wide awake. But if I return to bed the same thing occurs. It is when I am perfectly relaxed and so sleepy that I can hardly stay awake, and as soon as I am in the act of falling asleep, I stop breathing, and am awakened panting for breath. The strange thing about it, I am perfectly conscious of what is going on—I realize that I am breathing slower and slower until I stop, and then wake up. And if I stay in bed the same thing will occur over and over two or three times in five minutes. The only thing that will stop it is for me to get up, wash my face and dress—in other words get wide awake. My heart beats normally and just as strong when the spell is on as at other times. My pulse is 60 normally—my respirations about 12 and 14, but after panting for breath and getting back to normal again, my respirations gradually become slower and slower until I stop breathing. The doctors here say they have never heard of such a thing before."

The nature of the patient's trouble could be clearly stated and digitalization and mercurial diuretics caused prompt and complete clearing of the attacks. It is noteworthy that he had no dyspnea or edema but there was a history of previous myocardial infarction.

Nocturnal angina is at times associated with mild unsuspected left ventricular failure, and we routinely digitalize those having nocturnal angina. Often times improvement may follow digitalization and the use of diuretics, and one may be surprised at the brisk diure-

sis which may occur in this setting.

Example: Reverend Mr. J. J., age 57, had been having nightly attacks of substernal pressure for six months. His heart size was normal, there was no gallop rhythm, no venous distention or edema. Following digitalization and daily doses of Diuril he lost eight pounds and the attacks promptly subsided.

The onset of right heart failure may produce symptoms predominantly in the liver or gastrointestinal tract. These may occur acutely with massive pulmonary embolism or early with right sided lesions such as pulmonic stenosis, interatrial septal defect, mitral stenosis, and chronic lung disease. However, it should be recalled that long-standing lesions involving predominantly the left ventricle, such as coronary disease, hypertension or aortic valve disease, may present with pain in the right upper quadrant, nausea and vomiting, or anorexia due to passive congestion of the stomach and intestines. One may overlook the origin of these symptoms when the patient has developed relative tricuspid insufficiency and is able to sleep flat in bed without dyspnea, orthopnea, or paroxysmal nocturnal dyspnea. Indeed, these complaints previously noted may have improved or subsided with the onset of relative tricuspid insufficiency. Pericarditis with effusion may present with upper abdominal pain or tenderness and be misdiagnosed as intra-abdominal disease. It is notorious for heart failure in the child to produce early hepatomegaly with a paucity of findings in the lung on auscultation. At times the differential diagnosis between overdigitalization and passive congestion of the liver and gastrointestinal tract may be difficult.

Example: Mrs. F. M., age 48, had rheumatic heart disease with mitral stenosis and chronic congestive heart failure. With the onset of a respiratory infection there was worsening of the failure with the occurrence of nausea and vomiting. The symptoms were misinterpreted as due to overdigitalization and digitalis



was stopped. The symptoms progressed but with reinstitution of digitalis in increasing dosage and the use of diuretics the nausea and vomiting subsided.

Hepatomegaly and ascites occur relatively early in congestive heart failure in children and in patients with constrictive pericarditis. Occasionally a patient with congestive heart failure is wrongly suspected of having primary liver disease and the differential may become more difficult if it is not realized that all parameters of liver function may be abnormal in the presence of passive congestion. For example, many do not realize that BSP retention up to 35% may be due to congestive heart failure. There may be reversal of the A/G ratio, positive thymol and cephalin flocculation tests, and elevated alkaline phosphatase.

Nocturia may be the only symptom early in congestive heart failure. When a person is up and about, pooling occurs below the level of the heart in the splanchnic bed and lower extremities where the venous pressure is high. In the upright position there is increased production of antidiuretic hormone. With recumbency, fluid reenters the vascular bed and the venous return to the heart is increased. With a lessening of the antidiuretic hormone formation and the redistribution of fluid more urine is formed. Such a symptom may be wrongly attributed to prostatic disease in the male. With redistribution of salt and water that occurs during recumbency, fluid may be deposited in the periorbital tissues where the tissue pressure is low. Periorbital or facial edema is especially common in children with congestive heart failure and may be confused with acute nephritis or the nephrotic syndrome. The confusion is heightened by the fact that 3 plus albuminuria and NPN elevation to 80 mg.% is not uncommon in congestive heart failure. These do not contraindicate mercurial diuretics but indeed the values may return to normal after such therapy.

Unexplained weight gain may focus attention on the heart, and up to 10 pounds of fluid may accumulate without peripheral

pitting edema. This may occur in the absence of notable dyspnea.

The presence of ventricular diastolic gallop rhythm may precede the presence of other symptoms and signs of congestive failure by many months.

Example: M. S., age 43, had experienced previous myocardial infarction. At the time of a routine checkup a ventricular diastolic gallop rhythm was noted. There were no other symptoms or signs of congestive heart failure. The patient was digitalized, and overt congestive heart failure occurred three months later.

Furthermore, persistent ventricular diastolic gallop rhythm indicates a poor prognosis; patients with such rhythm seldom live more than a year.

Pulsus alternans may occasionally precede other evidences of heart failure, particularly in the patient with hypertensive heart disease.

Pleural effusion otherwise unexplained may at times result from left ventricular failure and this may occur in people with silent myocardial infarction as well as the classical clinical picture.

Palpitation due to extrasystoles may be an early expression of myocardial insufficiency and antedate other findings. These may respond promptly to digitalization.

Dyspnea and edema are common physiologic disturbances in pregnancy and may make early recognition of congestive failure difficult. Serial determinations of the vital capacity may give a clue to incipient heart failure. The vital capacity normally increases during pregnancy but drops sharply in the presence of heart failure.

One should be familiar with the uncommon as well as the common manifestations of congestive heart failure. Early recognition allows the institution of effective therapy and prevents needless suffering.

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## A SIMPLE OFFICE PROCEDURE AND APPARATUS FOR ESTIMATION OF PULMONARY FUNCTION

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A simple, reproducible test of ventilatory function readily performed in the doctor's office is essential for the proper evaluation of the patient with breathing difficulties. It is as essential as hemoglobin determination in the patient with pallor or the weight in the patient with edema.<sup>1</sup> The timed vital capacity expiogram is such a test. Most disorders, whether primary or secondary, that diffusely affect the lung produce important changes in the ability of the patient to exhale forcibly.<sup>2</sup>

The two major types of ventilatory disturbance, obstructive and restrictive, can be recognized, measured and recorded with an expiogram. In bronchial asthma and obstructive emphysema there is, primarily, a slowing in the *rate* of outflow of air, especially during the first second. The vital capacity is often reduced but may be relatively normal. In other pulmonary diseases the chief defect is that of a reduction in *total* vital capacity without appreciable change in the rate of expiration (fairly normal first second expiration).<sup>1</sup> The average normal adult will account for 70 to 90 per cent (average 80%) of the expired vital capacity within the first one second and at the same time the MEFR (maximum expiratory flow rate) calculated in such individuals will range from 350 to 500 liters of air per minute.<sup>3</sup>

The Scott-McKesson vital capacity appa-

ratus, essentially an accordion-type rubber bellows encased in a metal frame with an indicator pointing to degree of expansion of the bellows, and hence vital capacity, is a simple, portable apparatus capable of measuring the vital capacity accurately. The addition of a stop watch for timing and a stethoscope placed on the trachea will yield a creditable timed vital capacity. The drawbacks to this procedure are doubt as to the expiratory effort being maximum (recognized only by a tracing), and the possibility of a fairly normal total expiration time in certain cases, when in reality there is a markedly diminished first second expiration. The latter determination is vastly more significant.

The graphic expiogram, on the other hand, measures the first, second and third second vital capacities (normally 83%, 94%, and 97% respectively); furthermore, the slope of the curve between the 200 cc. and 1,000 cc. expiration points will be a true reading, eliminating any error due to lag in the apparatus. (Of significance only in borderline cases; in most pulmonary diseases the resistance of the bronchial tree is so large that the resistance of the apparatus becomes unimportant.)

Perhaps an even more sensitive index of obstructive disease is the calculated rate between points on the curve corresponding to 50% and 75% of the vital capacity. This segment of the curve is more markedly affected by obstructive disease than is the initial one due to the fact that the expiratory rate becomes progressively slower as the lungs deflate and the calibre of the bronchi decreases.<sup>1</sup> This degree of accuracy is unnecessary in the vast majority of cases.

A normal expiogram (timed vital capacity) immediately rules out any pulmonary or cardiac basis for dyspnea, with the ex-

1. Franklin, W.; Michelson, A. L.; Lowell, F. C., and Schiller, I. W.: Clinical Value of Tracing of Forced Expiration Expiogram: Pulmonary Disease, New England J. Med. 253: 799-808 (Nov. 10) 1955.

2. Gaensler, E. A.: Analysis of Ventilatory Defect by Timed Capacity Measurements, Am. Rev. Tuberc. 64: 256-278 (Sept.) 1951.

3. Worton, E. W., and Bedell, G. N.: Determination of Vital Capacity and Maximal Breathing Capacity: Simple, Inexpensive Method for Use in Normal Subjects and in Patients with Lung Disease, J. A. M. A. 165: 1652-1655 (Nov. 30) 1957.



ception of possible acute processes not operative at the time of testing (paroxysmal cardiac arrhythmias or bronchial asthma). The vital capacity determination is also a sensitive index of the severity of congestive heart failure and can be employed to follow the course of treatment. It is also useful when poliomyelitis, myasthenia gravis or other neuromuscular diseases involve the respiratory muscles.<sup>1</sup> The expirogram will furnish another useful measurement, the MEF<sub>R</sub> (Cander and Comroe). The MEF<sub>R</sub>, expressed in liters per minute, is calculated from the time required for the expiration of one liter of air measured from the 200 cc. to the 1200 cc. volume on the spirogram. The normal MEF<sub>R</sub> for an average adult equals 300 to 500 liters per minute.<sup>4</sup>

A well performed expirogram usually provides the pertinent information necessary for diagnosis and management of most types of pulmonary dysfunction (obstructive and restrictive). The chief exception would be cases involving alveolar-capillary block (sarcoidosis, berylliosis, pneumoconiosis, congestive heart failure) and patients who are too sick to perform even this simple ventilatory test. In the latter situations it would be mandatory to determine arterial oxygen saturation, CO<sub>2</sub> content and pH.

However, in almost all instances of diffusion defect, such as the above, there is an associated ventilatory disturbance which by itself will usually serve to follow the patient's course. Indeed, the presence of alveolar-capillary block can be suspected from the nature of the patient's disease and the presence of a degree of arterial oxygen unsaturation which is out of proportion to the ventilatory disturbance as measured by the spirogram.<sup>1</sup>

The only other commonly performed pulmonary function test of value, the maximum breathing capacity test, is a dynamic pul-

monary function test which is probably more accurate and more sensitive than the timed vital capacity expirogram. This is especially true in the early stages of pulmonary dysfunction, before vital capacity is affected. However, the test requires a cumbersome apparatus and is a difficult procedure for ill patients. In the vast majority of cases, the timed vital capacity will be sufficient.

Gaensler constructed an instrument for measurement of the total and timed expiratory vital capacity, from 1 to 10 seconds, by attaching a special timing device to the standard vital capacity spirometer. The one second expiratory capacity, expressed as a per cent of predicted total vital capacity, was found to correlate closely with the maximum breathing capacity similarly expressed.<sup>2,5</sup>

At this Clinic we formerly performed a qualitative timed expiratory vital capacity utilizing the Scott-McKesson apparatus timed with a stop watch and a stethoscope placed on the trachea, as mentioned earlier. Recently an apparatus was described utilizing the Scott-McKesson bellows attached to a synchronous clock motor and recording on pressure sensitive paper by means of a spur gear.<sup>3</sup> It occurred to one of us (H. H. T.) that it would be a simple matter to attach a direct writing electrocardiograph machine to this apparatus and record the expiratory effort on the EKG paper. Since the electrocardiograph paper moved at the rate of 25 millimeters per second (most commercial spirometer drums rotate at the rate of 32 millimeters per second), it was felt that a good, reproducible, expiratory curve would be traced. The apparatus was constructed easily, utilizing home-made equipment; the details will be described later. It is believed that any physician who owns a direct writing electrocardiograph apparatus could easily assemble this equipment. We shall briefly describe the apparatus and illustrate its value with recordings of representative cases. Since many doctors possess an electrocardiograph,

4. Cander, L., and Comroe, J. H., Jr.: Method for Objective Evaluation of Bronchodilator Drugs: Effects of Dapron, Isuprel, and Aminophylline in Patients with Bronchial Asthma, *J. Allergy* 26: 210-218 (May) 1955.

5. Gaensler, E. A.: Instrument for Dynamic Vital Capacity Measurement, *Science* 114: 444-446 (Oct. 26) 1951.



it would only require the investment of approximately \$30 to \$40 to add the above pulmonary function apparatus. (Cost of commercial spirometer is \$300 to \$600.)

#### THE APPARATUS

##### Construction of Apparatus

The apparatus devised for performing timed vital capacity expirograms consists of three parts: a direct-writing electrocardiograph machine (we use a Sanborn viso-cardiette), a Scott-McKesson bellows-type vital capacity apparatus, and a plywood stand fitted with a sliding arm containing an attached ball-point pen filler (Figure 1).

The bellows is mounted on a shelf slightly below the opening of the paper slot on the cardiette; the latter occupies the remainder of the plywood base. A sliding device, consisting of two short rods, is clamped to the shelf perpendicular to the side of the bellows. The ball-point pen filler is attached to one end of the sliding rod. A short length of cotton thread is attached to the opposite end of the rod. The cord is then threaded through guides which are attached with tape to the top portion of the bellows. As the bellows expands the upper lid to which the cord is attached draws the pen towards the bellows in a straight line. Due to the exceptionally free movement of the above parts, friction is negligible.

A strip of sheet metal, well sanded, slightly wider than the EKG paper and inclined slightly, is suspended between the shelf and the paper outlet of the EKG machine. The edge of this ramp is bent upward forming a track for the EKG paper. The latter is brought down the track and hangs over the edge, kept taut by the weight of a heavy clip. This enables the paper to slide smoothly down the ramp as it is fed out of the EKG machine at a constant speed of 25 mm./sec.

The range of the pen cannot exceed 2 inches, the width of the EKG paper, therefore it is necessary to attach the cord leading from the pen assembly to the bellows lid at a point, determined by trial and error, where the maximum excursion of the bellows in the average vital capacity determina-

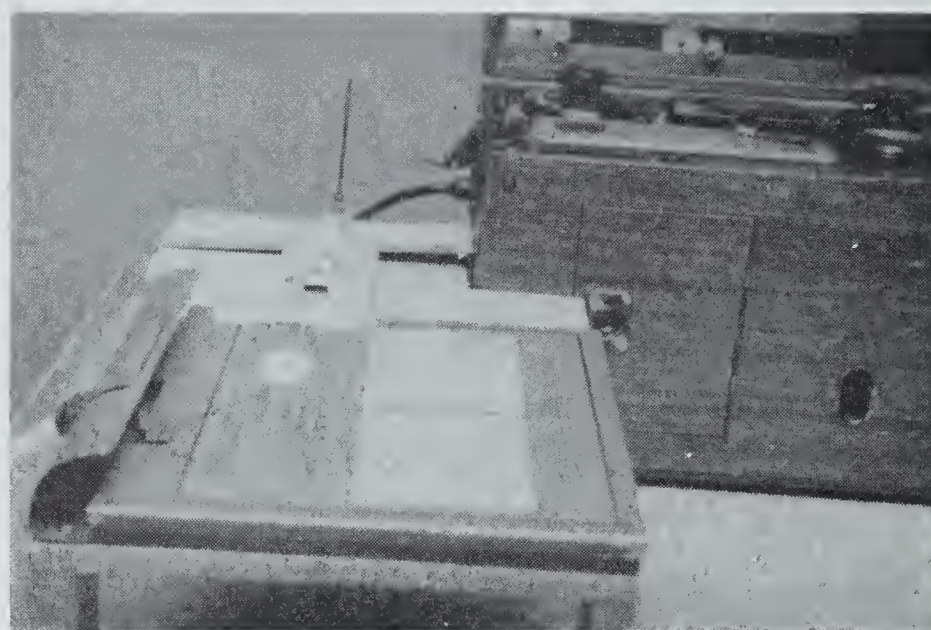
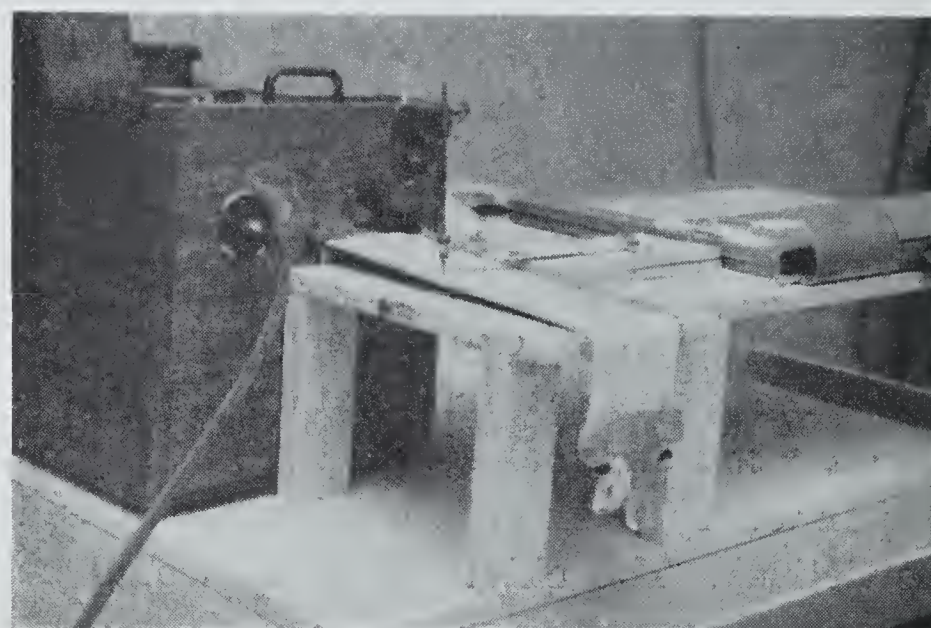
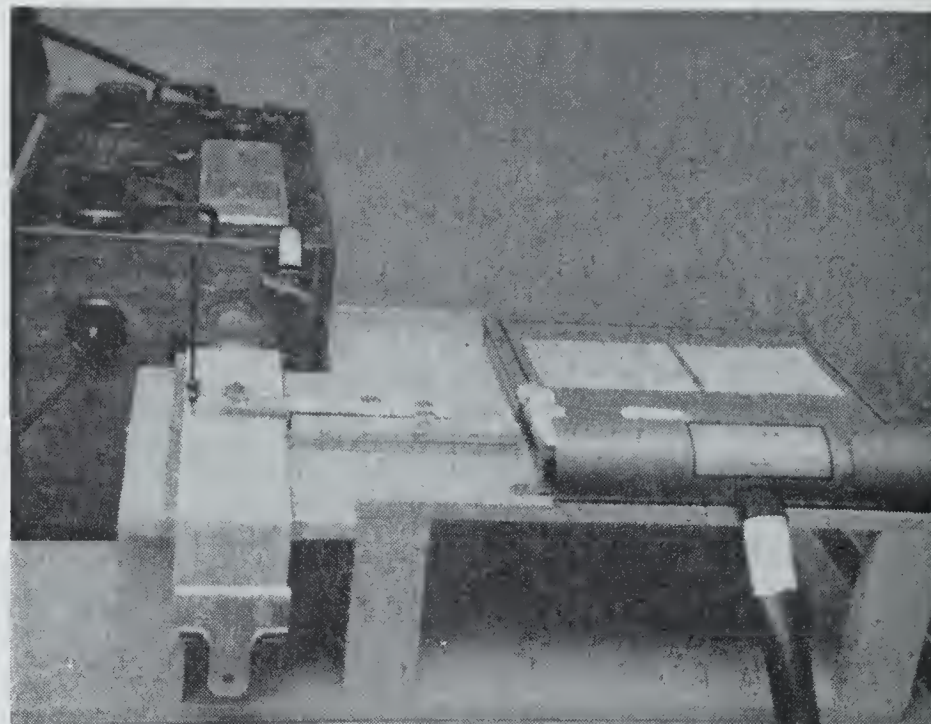


Fig. 1. Pictorial views of timed vital capacity apparatus.

tion (approximately 4 liters) will not pull the pen off the paper.

In our particular apparatus we determined that the attachment of the cord approximately  $2\frac{3}{4}$  inches from the bellows hinge permitted a maximum expansion of the bellows to 4 liters. Therefore our scale could be calibrated to 4 liters. The occasional patient with a larger vital capacity will require the attachment of a second guide nearer the hinge. This, too, would have to be determined by trial and error. By means of threading



the cord through this new guide position (easily performed in a few seconds), a larger maximum vital capacity can be recorded (up to 5 liters).

#### Calibration of Apparatus

The apparatus was calibrated by means of a 50 cc. syringe equipped with a stop-cock. The EKG paper was clipped to the track and the pen point placed precisely on the initial edge of the ruled portion. Two hundred cc. portions of air were forced into the bellows and the position of the pen was marked on the paper after each portion. (200 cc. of air were required to fill the dead space of the apparatus.) The ensuing scale was etched on a square of cleared x-ray film. This calibration procedure was repeated several times and then checked by an air-displacement procedure using measured volumes of water. The results were identical.\* The reading error on the EKG paper is approximately 0.5 mm., which would represent an error of 40 cc. of air. This would be negligible in pulmonary function testing.

#### TEST PROCEDURE

The apparatus is assembled on top of a tall table by placing the EKG machine in position on the prepared equipment. A short piece of rubber hose, equipped with a disposable cardboard mouthpiece, is attached to the opening of the bellows. The standing patient is instructed in the procedure—the importance of deep inspiration, and then complete, forced, rapid expiration is stressed. The patient is permitted several trial runs, with the encouragement and advice of the operator. The latter checks for possible air leaks through the nose or around the mouthpiece.

The pen is positioned at the outer edge of the paper, the nose clamp is attached, and the patient is asked to repeat the procedure as practiced, while the EKG machine paper-drive mechanism is turned on. Two records are made.

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\*Simultaneous tracings were made on a group of volunteers and patients utilizing the above apparatus and a standard Collins spirometer. The results were, for all intents and purposes, identical.

The transparent calibrated scale is then superimposed on the completed record and the following measurements are made: 1 second, 2 second, 3 second, and total vital capacities and MEFR. The latter index is determined by measuring the time required for expiration of 1 liter of air as recorded between the 200 cc. and 1200 cc. points on the graph. This is then expressed in liters per minute.

#### OBSERVATIONS

The timed vital capacities and the MEFR in a group of (1) normal individuals, (2) patients with restrictive pulmonary disease such as cardiac failure, lymphoma of the lung and atelectatic lung, and (3) individuals with obstructive pulmonary disease such as emphysema and bronchial asthma are detailed in Tables 1, 2, and 3. The corresponding expirograms are pictured in Figures 2, 3, 4.

It will be noted that the vital capacities in the normal individuals range as follows: first second 83-96 per cent, second second 91-100 per cent, third second approximately 100 per cent. The corresponding MEFR determinations are generally greater than 300 liters per minute. The total vital capacities of normal adults vary considerably depending on many factors. The accepted normals in the literature similarly vary a great deal, depending on the population sample. We have assumed, for the purpose of this paper, that a vital capacity of 4 to 5 liters in the male and 3 to 4 liters in the female is an acceptable normal.

The figures and expirograms of our patients with obstructive pulmonary disease indicate a definite reduction in the first second vital capacity reading (range 52 to 76 per cent). The second second vital capacity is more nearly normal and the third second reading is normal. The MEFR in this group of patients is markedly reduced (range 47-300 liters per minute). The recorded expirogram approaches a straight line rather than the J shape of the normal curve (Figure 3).

In pulmonary restrictive disease, on the other hand, we find fairly normal first, sec-



PULMONARY FUNCTION

TABLE 1  
Timed Vital Capacities and Maximum Expiratory Flow Rates in Normal Individuals

Case number	1	2	3	4	5	6
Age and sex	26-M	40-M	24-F	35-M	48-F	31-M
Vital capacity* (Cubic centimeters)	3500	4700	3700	3850	3200	4500
1st second vital capacity † (Normal 80%)	96%	83%	80%	91%	90%	70%
2nd second vital capacity † (Normal 94%)	100%	96%	100%	98%	97%	91%
3rd second vital capacity † (Normal 97%)	100%	100%	100%	100%	100%	100%
MEFR (liters per minute)	300	375	300	300	214	375
* Acceptable figure for normal vital capacity: Male=4-5 liters Female=3-4 liters						
† Expressed as per cent of total.						

TABLE 2  
Timed Vital Capacities and Maximum Expiratory Flow Rates in Obstructive Pulmonary Disease

Emphysema				Bronchial Asthma	
Case number	7	8	9	10	11
Age and sex	71-M	77-M	72-M	27-M	35-F
Vital capacity * (Cubic centimeters)	1700	2950	1950	3900	1400
1st second vital capacity † (Normal 80%)	76%	52%	60%	72%	71%
2nd second vital capacity † (Normal 94%)	91%	78%	85%	87%	93%
3rd second vital capacity † (Normal 97%)	100%	92%	92%	95%	96%
MEFR (liters per minute)	75	90	62	300	47
* Acceptable figure for normal vital capacity:				Male=4-5 liters Female=3-4 liters	
† Expressed as per cent of total					

ond and third second vital capacities but a markedly reduced total vital capacity and MEFR. The expirogram in these cases is a miniature normal curve with the same J shape but of smaller magnitude (Figure 4).

DISCUSSION AND COMMENT

A timed vital capacity, when properly performed, will reveal the following information:

(1) Determine whether the pulmonary dysfunction is due to obstruction of outflow

(obstructive disease, such as asthma and emphysema), to inflow by restriction of the pulmonary bellows (restrictive disease, such as cardiac failure, loss of lung tissue as in tumors, surgical resection, etc.), or diffuse disease which similarly reduces total capacity but does not cause any respiratory obstruction (various lung diseases).

(2) Rule out organic pulmonary or cardiac disease as a basis for complaints of "shortness of breath." This will immediately



PULMONARY FUNCTION

TABLE 3  
Timed Vital Capacities and Maximum Expiratory Flow  
Rates in Restrictive Pulmonary Disease

Cardiac Failure				Miscellaneous Lung Disease with Loss of Lung Tissue	
Case number	12	13	14	15	16
Age and sex	60-M	19-M	47-M	76-F	54-M
Vital capacity* (Cubic centimeters)	1800	2400	2200	900	1450
1st second vital capacity † (Normal 80%)	100%	83%	86%	89%	87%
2nd second vital capacity † (Normal 94%)	100%	98%	100%	100%	97%
3rd second vital capacity † (Normal 97%)	100%	100%	100%	100%	100%
MEFR (liters per minute)	188	166	214	48	63

\* Acceptable figure for normal vital capacity: Male=4-5 liters  
Female=3-4 liters

† Expressed as per cent of total

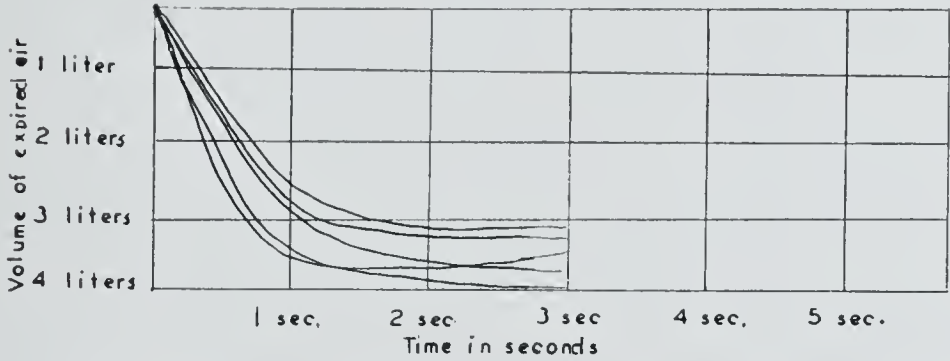
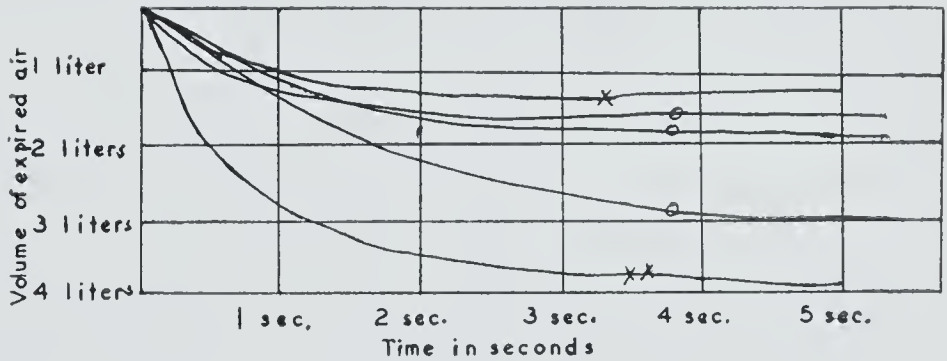
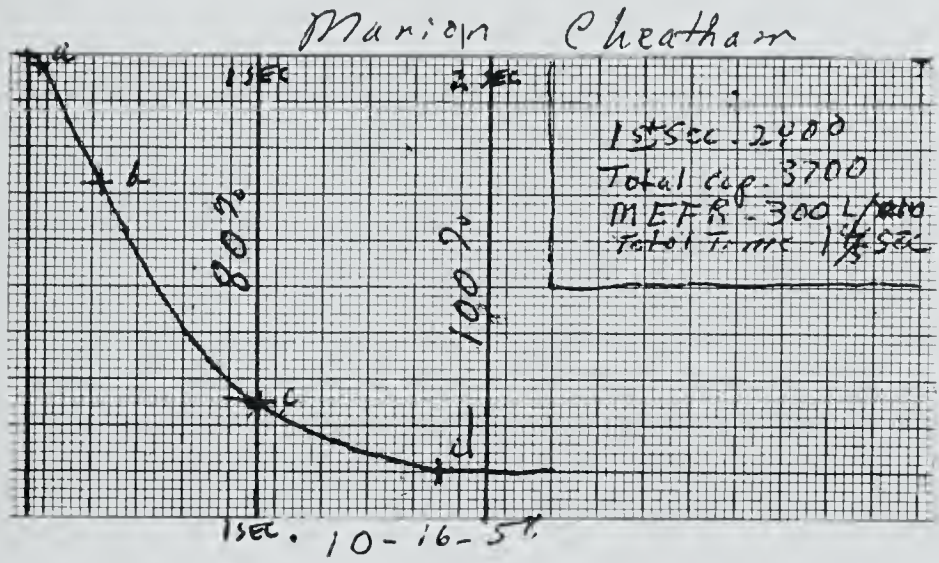


Fig. 2. Timed vital capacity expirograms of normal individuals.

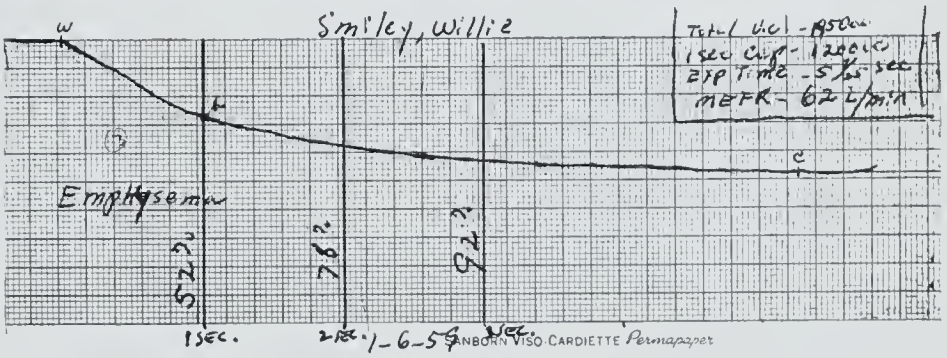


X=Bronchial Asthma  
XX=Bronchial Asthma in Remission  
O=Emphysema

Fig. 3. Timed vital capacity expirograms of individuals with obstructive pulmonary disease.



Tracing of Case 3



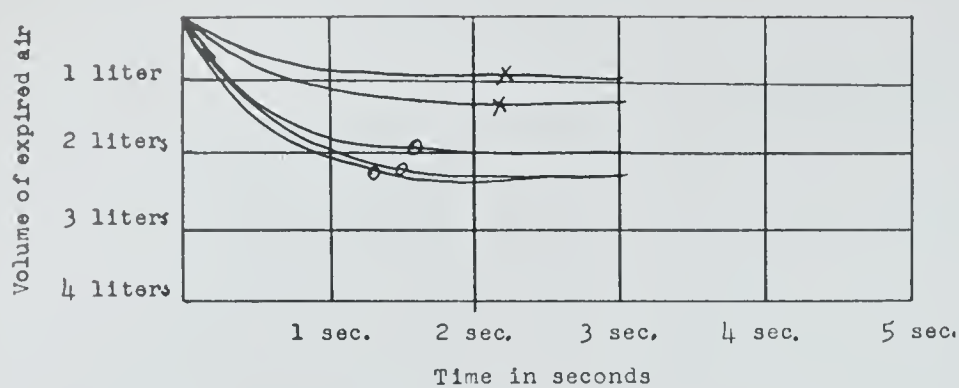
Tracing of Case 9

- eliminate the neurasthenias and anxiety states as causes of breathlessness.
- (3) Follow the progress of pulmonary disease.
  - (4) Follow the progress of cardiac failure and the response to medication.
  - (5) Evaluate the effects of bronchodilator drugs in asthma and emphysema.

As stated previously, although timed vital capacity may not be as quantitatively accurate as the maximum breathing capacity or even some complicated pulmonary laboratory measurements, it can be employed very usefully in the doctor's office or in the hospital to supply a good differential diagnosis. It will be the rare case indeed that will re-



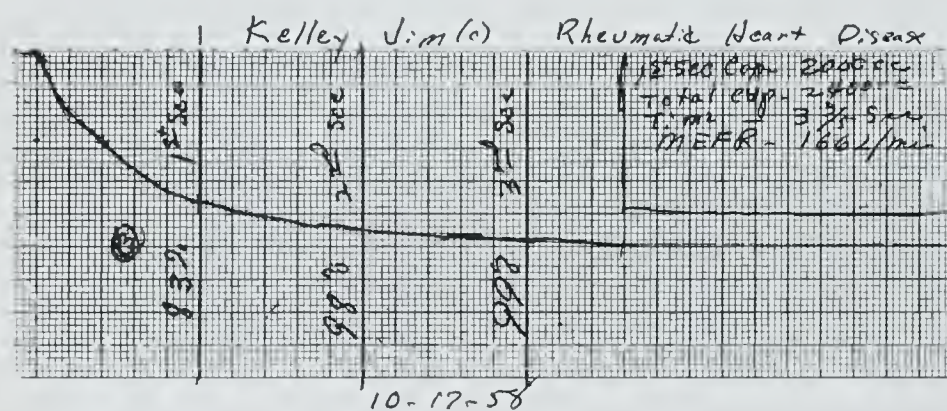
## PULMONARY FUNCTION



X=Miscellaneous Lung Disease with Loss of Lung Tissue

O=Congestive Heart Failure

Fig. 4. Timed vital capacity expirograms of individuals with restrictive pulmonary disease.



Tracing of Case 13

quire more exacting measurement; these, in any event, would require evaluation in a highly specialized pulmonary physiology laboratory.

The illustrations already discussed indicate the striking differences in the expirograms of the various types of pulmonary dysfunction. A brief glance at the expirograms serves to distinguish the characteristic tracings of the normal and of obstructive and restrictive disease. Further differentiation between the two main types of obstructive disease, i. e., bronchial asthma and emphysema, can be made by the response to bronchodilators. There should be a definite increase in the first second reading in asthma but not in emphysema. Furthermore, a mild subclinical asthma can often be differentiated from the normal by the response to bronchodilators.

### SUMMARY

A simple apparatus for determination of timed capacity suitable for use in a doctor's office is described. This apparatus consists essentially of a Scott-McKesson vital capacity bellows, with an attached home-made recording arm hooked up to a direct writing electrocardiograph machine. The timed vital capacity expirogram is a simple, reproducible

test which can be performed on almost any patient and will, in the great majority of cases, reveal all the information necessary for evaluation of pulmonary function. It will differentiate between obstructive pulmonary disease, such as emphysema and bronchial asthma, restrictive disease, such as cardiac failure and loss of lung tissue, and furthermore, can be used to rule out organic, pulmonary or cardiac disease as the basis for complaints of shortness of breath. It can also be employed to follow the progress of cardiac failure and pulmonary disease and evaluate the effects of bronchodilator drugs in asthma and emphysema. Thus, with the expenditure of approximately \$30 to \$40, and a little ingenuity, a physician can adapt his electrocardiograph machine to additionally record timed vital capacity expirograms.

**Tranquilizers Have "Little to Offer" in Skin Conditions**—Tranquilizing drugs have "little to offer" in the treatment of patients with dermatological conditions, a Hayward, Calif., physician found after an extensive study which required four years to complete.

Dr. Wayne Wright, who reported his findings in the November 21 Journal of the American Medical Association, used nearly every type of tranquilizing drug in a study which involved a total of 740 patients, who were suffering from a wide variety of skin conditions. Many of the clinical cases were from the Travis Air Force Hospital in Fairfield, Calif.

Dr. Wright, who was assisted in his study by Drs. Jean S. Wright and Max Krause, concluded that there was only one type of dermatological condition which was helped by a tranquilizing drug. Nummular eczema, characterized by coin-shaped patches on the skin, was "definitely benefited" by one of the drugs, hydroxyzine hydrochloride.

Enough patients were helped, Dr. Wright said, to "conclude that it merits a trial in treatment of patients with this condition."

As adjunctive therapy, the tranquilizers help to relieve itching, to produce sleep, and to allow dosage of steroids and certain hormones to be reduced, the Journal article said.

The study revealed that the patients suffered many side reactions from this class of drugs whose principal effect is to calm down nervous, anxious, excited and agitated people. Minor side effects of the drugs used were blurred vision, nasal congestion, dryness of the mouth, changes in the pulse rate and constipation. The most serious side reactions were convulsions.



# MANAGEMENT OF CARCINOMA OF THE FEMALE BREAST

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## INTRODUCTION

The breast is the commonest site of cancer in the female. About five per cent of the female population can expect to have breast cancer. New York state statistics indicate sixty-two new cases per 100,000 female population develop each year.

The average life expectancy of the untreated case is just over three years. In a review study of the Memorial Hospital cases for 1951 by Adair,<sup>1</sup> eighty per cent of cases were primary and operable. The remainder were primary, inoperable or recurrent. This is a marked improvement in operability over previous years and is a tribute to cancer education efforts. The length of survival has improved in recent decades, but long term cure has been disappointing. The present concept of curative therapy dates from the introduction of the technic of radical mastectomy by Halstead<sup>2</sup> in the eighteen nineties.

Since the introduction of this concept, which remains basic in operative cancer therapy in general, a number of significant adjunctive measures have been proposed. Chief among these have been extended surgical procedures, radiation therapy, alteration of endocrine status, and chemotherapy. Possibly, the most controversial alteration in breast cancer therapy is the method of simple mastectomy and x-radiation as championed by McWhirter.<sup>3</sup>

It is obvious that confusion in therapy must exist when the etiology of a disease is so completely unknown as is true of cancer.

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Read before the Alabama Surgical Section, United States Section, International College of Surgeons, Huntsville, May 22, 1959.

1. Adair, Frank E.: Cancer of the Breast, Surg. Clin. N. A., April 1953.

2. Halstead, W. S.: The Results of Radical Operations for the Cure of Cancer of the Breast, Ann. Surg. 46: 1, 1907.

3. McWhirter, R.: The Value of Simple Mastectomy and Radiotherapy in the Treatment of Cancer of the Breast, Arch. Surg. 59: 830, 1949.

It is not the scope of this paper to consider etiology of breast cancer, but certain factors assume great importance in consideration of the methods of therapy. The relationship, if any, of certain benign lesions, such as the various forms of fibrocystic disease, especially that associated with ductal hyperplasia, and duct papilloma to cancer of the breast remains unproved. Statistical studies from Minnesota and from New England have shown a five-fold greater incidence of breast carcinoma in women who have these lesions as compared to women who do not. Endocrine stimulation has been unequivocally demonstrated in a high percentage of breast malignancy. This knowledge is of prime importance in the palliative and adjunctive curative therapy of breast cancer. The influence of heredity has always been an interesting one, and the work of Maude Slye on rats has indicated a relationship in which the trait is transmitted through the maternal ancestry. A rare experience was provided the author<sup>4</sup> some years ago when a pair of 91-year-old homologous twins were seen with simultaneous breast cancer. An interesting family history of breast cancer was found in studying these patients.

The author proposes to consider in this paper the management of breast cancer from the standpoint of (1) curative therapy, (2) adjunctive measures, and (3) palliative therapy of inoperable and/or recurrent disease.

## CURATIVE THERAPY

As stated previously, the curative therapy of the disease had its origin with the development of radical mastectomy by Halstead,<sup>2</sup> the results of which were published in 1907. The basis of this procedure is removal of the breast, pectoral muscles and lymphatics in continuity. A consideration of the distribution of the lymphatics draining the breast

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4. Munford, S. A., and Hugh Linder: Carcinoma of the Breast in Homologous Twins, Am. J. Cancer 28: 393.



area will recall the aims of the operation.

It is recognized that the major routes of spread are local extension and through the lymphatics. Disease areas of vascular spread are beyond reach of surgical eradication. It is noted that lesions in the medial half of the breast have a tendency to invade the internal mammary chain, the mediastinal lymphatics, and across the midline to the opposite breast. Lesions in the lateral half of the organ metastasize first to the axillary nodes, to the supraclavicular nodes, and to the sub-sternal area when the primary routes are blocked. A representative study of regional node metastasis is shown in the following table.

TABLE I

LYMPH NODE METASTASIS OF CANCER OF THE BREAST

Axillary metastasis—58% (Urban).<sup>5</sup>

Supraclavicular—33% of those with axillary metastasis (Dahl-Iversen).<sup>6</sup>

Internal mammary—48% of those with axillary metastasis distributed as follows:<sup>7</sup>

Inner half—74%

Outer half—28%

The overall metastasis to the internal mammary chain in 125 patients was 34% (R. S. Handley).<sup>7</sup>

It becomes immediately obvious that criteria of operability must be established if one is to avoid unnecessary and often harmful procedures. The criteria of Haagensen<sup>8</sup> have been accepted as fundamental but have undergone considerable revision.

5. Urban, J. A.: Radical Mastectomy in Continuity with en Bloc Resection of the Internal Mammary Lymph Node Chain, Cancer 5: 992, 1952.

6. Dahl-Iversen: Quoted by McDonald, J. J., C. D. Haagensen and A. P. Stout: Metastasis from Mammary Carcinoma to the Supraclavicular and Internal Mammary Lymph Nodes, Surg. 34: 521, 1953.

7. Handley, R. S.: Ibid.

8. Haagensen, C. D., and A. P. Stout: Carcinoma of the Breast: Criteria of Operability, Ann. Surg. 118: 859, 1943.

The following criteria of inoperability are acceptable to most surgeons:

- I. Breast and chest wall:
  - A. Large fixed lesions,
  - B. Extensive ulceration,
  - C. Extensive edema of skin,
  - D. Inflammatory carcinoma,
  - E. Satellite nodules.
- II. Extensive or secondary lymphatic involvement:
  - A. Large multiple axillary nodes,
  - B. Nodes in apex of axilla and along axillary vein,
  - C. Supraclavicular nodes,
  - D. Demonstrated internal mammary node involvement.
- III. Systemic metastasis:
  - A. Visceral,
  - B. Skeletal.

It is the philosophy of the author to offer operation to a patient if there is reasonable hope of removal of the tumor and its extensions by the principles of the classic radical mastectomy. Representative series studies have shown an operability of 70%-80% based on clinical impression. In order to define operability more accurately, biopsy of nodes in the questionably accessible areas, e. g., apex of axilla, supraclavicular area and internal mammary chain, has been recommended. Haagensen's<sup>9</sup> experience with 156 patients is shown in the following table:

TABLE II

OPERABILITY OF 156 PATIENTS AS DETERMINED BY TRIPLE NODE BIOPSY (HAAGENSEN)

Inoperable (clinical)	
Local—27	25%
Distant—13	
Operability	75%
Inoperable (triple node biopsy)	37 (25%)
Number radical mastectomy	79
Actual operability	50%

9. Haagensen, C. D., and Sami J. Obeid: Biopsy of the Apex of the Axilla in Carcinoma of the Breast, Ann. Surg. 149: 149, 1959.



Because of the recognition of the need of removal of metastases beyond the limits of the classic Halstead technic, extended procedures, notably supraclavicular and internal mammary node dissections, have been done. Actually some of Halstead's early cases had attempts at such dissection but this part of the procedure was later abandoned. The value of these procedures as now done must await further evaluation.

The following tables provide survival statistics from Johns Hopkins Hospital series as reported by Lewison<sup>10</sup> and are generally representative of survival following radical mastectomy:

TABLE III  
CARCINOMA OF BREAST  
FIVE-YEAR SURVIVAL RATES  
RADICAL MASTECTOMY

	1935-40	1940-45
Localized	64%	71%
Regional metastasis	32%	34%
Total	44%	46%

TABLE IV  
CARCINOMA OF BREAST  
OVERALL SURVIVAL

	5 years	10 years
Localized	69%	49%
Regional metastasis	30%	16%
Overall	36.7%	23.2%

Halstead 24% (five year) 1907.

#### ADJUNCTIVE THERAPY

Radiation by high voltage x-ray or other sources of effective radiation has been applied for many years. The challenge presented by the McWhirter regimen has aroused new interest. It is generally accepted that postoperative radiation is advisable in all cases with axillary metastasis and in lesions of the medial half of the breast. Radiation in the absence of axillary involvement in outer quadrant lesions is not uniformly agreed upon. The Lahey Clinic practice is to give radiation to virtually all patients.

10. Lewison, Edward F.: Results of Treatment of Breast Cancer at Johns Hopkins Hospital 1941-45 with a Discussion, *Int. Abst. Surg.* 107: 313, 1958.

Marshall and Hare<sup>11</sup> report a 52% overall five-year survival. The author subscribes to this viewpoint because of the difficulty of ascertaining freedom from axillary metastasis.

Since a high percentage of breast cancer can be shown to be endocrine dependent, castration must be seriously considered as an adjunctive measure. Jessiman and Moore<sup>12</sup> believe that essentially all tumors in the young and menopause-age patients are estrogen stimulated. Castration is of greatest value in frankly palliative treatment but it may have "curative" value as well. In view of the occurrence of 3%-4% independent development of cancer in the opposite breast, a good case can be made for routine ovarian ablation. Also cancer is 3-4 times more likely to develop in the second breast than in the normal population. The usual recommendation is that castration be done in the actively menstruating patient and possibly those who are 10-15 years past menopause. In the very young, however, the impact of castration on the emotional status of the family is so great that individualization is mandatory. Aldrich, Liddle and Morton<sup>13</sup> reported 60 cases treated by radical mastectomy plus castration with 57% overall five-year survival without known disease. This is slightly higher than their similar survival rate of 54% for the entire mastectomy group. Surgical removal of the ovaries is preferred over castration by x-ray.

A more recent addition to the adjunctive armamentarium is lavage of the operative wound with cancerocidal drugs as suggested by Cole.<sup>14</sup> The theoretical merit of this prac-

11. Marshall, Samuel F., and H. F. Hare: Carcinoma of the Breast: Results of Combined Treatment with Surgery and Roentgen Rays, *Ann. Surg.* 125: 688, 1947.

12. Jessiman, Andrew G., and F. D. Moore: Carcinoma of the Breast, *New England J. Med.* 254: 846, 901, 947, 1956.

13. Aldrich, E. Meredith; Harold V. Liddle, and C. Bruce Morton: Carcinoma of the Breast: Results of Surgical Treatment, *Ann. Surg.* 145: 799, 1957.

14. Cole, Warren: Personal Communication.



tice is indicated by the occurrence of cancer implants in scars, donor sites, etc. Information of its actual value is not yet available.

## PALLIATIVE THERAPY OF ADVANCED PRIMARY OR RECURRENT DISEASE

In obviously incurable lesions, especially in elderly persons, removal of large ulcerating or imminently ulcerating tumors is useful. The addition of radiation finds greatest usefulness in such lesions. Indeed, the controversy over the McWhirter regimen has done much good in calling attention to the dangers of cutting across protective barriers by unwise surgical procedures. Illustrative of this unwise practice is radical mastectomy in the presence of large, multiple axillary metastases.

## CASTRATION

When oophorectomy has not been done in the primary treatment it is useful as an early palliative measure. About half of the younger age group may be expected to show benefit. The procedure is useful even in those patients well past the menopause since high estrogen levels are known to exist occasionally. The condition of cortical hyperplasia has been observed in many patients with high hormone levels. Jessiman and Moore<sup>12</sup> have recommended assay of estrogens and/or follicle stimulating hormones in such patients as a preliminary to treatment. Marked improvement, both subjective and objective, occurs for a time in favorable cases.

## HORMONE THERAPY

### Androgens

Administration of androgens is of value chiefly in the younger age group and up to ten to fifteen years after menopause. This hormone is most useful in the patients who have skeletal metastasis and those who relapse after adrenalectomy. While subjective improvement is often dramatic, objective improvement manifested by healing of bone lesions and reduction in size of the tumor is seen in only about 20% of cases. The side effects are not to be forgotten. Many patients complain bitterly of the masculinizing effects. The increased libido may in some cases become a real problem. Some of the newer androgens give promise of having

fewer side effects. Stimulation rather than inhibition of the disease may occasionally occur and is thought to be due to conversion of androgen to estrogen.

### Estrogens

Estrogen therapy may be of value in the senile or old patient. Soft tissue lesions respond better than skeletal lesions. In properly chosen cases, 40% of soft tissue metastasis and 30% bone lesions may be expected to show regression for a time. The stilbestrol test suggested by Jessiman and Moore<sup>12</sup> is useful in selecting the suitable case for estrogen administration.

### Adrenal Steroids

The use of cortisone and related steroids has initiated temporary remission in some cases and may be useful when androgens or estrogens fail. Large initial doses inhibit pituitary activity, with consequent adrenocortical inhibition. It is possible, also, that cortisone competes with estrogen in the blood for active sites in the protein molecule, thus rendering estrogen inactive. In essence, cortisone actually decreases available estrogen, either by inhibiting adrenal or gonadal sources, if present, or by interfering with its transportation in the blood. If cortisone or similar preparations are used a dose of 150 mgm. daily should be given for three days with gradual reduction to a maintenance dose of 50 mg. It is to be remembered that the role of host resistance to cancer is, as yet, unknown and the effect of adrenal steroids relative thereto unclear.

## CHEMOTHERAPY

The systemic use of cancerocidal drugs has not been promising. The work of Creech and others in regional perfusion with relatively high dosages is interesting and stimulating, but not yet of practical value.

## ADRENALECTOMY

As indicated in previous statements, the adrenal may be an important source of extra-gonadal estrogen. It follows, then, that bilateral adrenalectomy may favorably affect the estrogen stimulated tumors. A rough indication of its usefulness is previous benefit from castration and/or androgen therapy. If



available, assay of estrogens of extragonadal sources offers a means of appraisal. Visceral metastases, especially hepatic, are not benefited. A good argument for concomitant castration and adrenalectomy, especially in the young, can be made. Forty to 50% objective remissions are reported following bilateral adrenalectomy and previous castration.

#### HYPOPHYSECTOMY

This procedure is based upon further reduction of mammotropic substances. No method of rational selection of cases exists at present. In general, those patients showing remission from castration may be expected to improve after hypophysectomy. Other mammotropins unrelated to gonads and adrenals may exist and their removal may prove beneficial. Pearson et al.<sup>15</sup> reported a 50% objective improvement in 41 cases. Five of 11 patients with previous castration and adrenalectomy improved. Fifteen of 24 patients without previous removal of ovaries or adrenals showed improvement. This was true of both primary and recurrent cases.

#### LOCAL IRRADIATION

Intensive irradiation of local lesions may be of temporary value. Bone pain may be relieved and local lesions may be temporarily controlled. Soft tissue metastases (visceral) are very resistant to radiation.

#### TREATMENT OF CARCINOMA OF THE BREAST DURING PREGNANCY

The observation that carcinoma of the breast is estrogen stimulated in the young individual is the important consideration in treatment of the disease in the pregnant or lactating individual. Otherwise, treatment remains the same. The same criteria of operability exist. The placenta, being a source of estrogen, should be removed at the earliest possible time; by abortion in the early months (religion permitting), and by early labor in the later weeks of pregnancy. The disease progresses rapidly in pregnant patients and a few weeks procrastination may transform a favorable case into a hopeless one. The

question of castration is important and the same principles are applicable as enunciated in previous paragraphs.

#### SUMMARY

Surgical extirpation remains the only uniformly acceptable curative therapy for cancer of the breast. It is reasonably applicable in 75 per cent of cases now being seen in the big clinics. Unfortunately, occult metastases to lymph node areas of equivocal surgical accessibility further decrease curative operability to approximately 50 per cent. Adjunctive measures, especially castration and irradiation, are useful in increasing the survival period at least. Local application of cancerocidal drugs is yet to be fully tested, but offers a means of further refinement of surgical technic. The extended radical procedures have yet to receive wide approval. The McWhirter regimen remains most controversial in this country. Representative results of radical mastectomy are given in a report of 324 cases by Aldrich, Liddle and Morton.<sup>13</sup>

TABLE V  
CANCER OF BREAST  
RESULTS

	Five-year survival without disease	Ten-year survival without disease
With axillary metastases	176 cases—65—37%	115 cases—32—28%
Without axillary metastases	148 cases—109—74%	88 cases—54—61%
Total	324 cases—174—54%	203 cases—86—42%

Hormone therapy has been useful in the palliation of a significant proportion and often affords dramatic subjective relief. Bilateral adrenalectomy and/or hypophysectomy further extend the beneficial effects of castration and hormone therapy. Chemotherapy by regional perfusion technics has not yet shown practical value.

The rate of first admissions to mental hospitals for paresis, a complication of syphilis, has dropped from 4.7 per 100,000 population to 0.5 since the antibiotics were introduced. In spite of such figures, according to Health Information Foundation, the problems of venereal disease in the U. S. are far from solved, chiefly because of public apathy and ignorance.

15. Pearson et al.: Quoted by Jessiman and Moore.<sup>12</sup>



## SURFACE CECOSTOMY AS THE PROCEDURE OF CHOICE

### IN DECOMPRESSING THE ACUTELY OBSTRUCTED COLON WITH THE USE OF THE HUNT CECOSTOMY CLAMP

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Acute colon obstruction is a surgical emergency. It is comparable to a strangulated obstruction of the small intestine and unless relieved of the intense intracolonic pressure it will perforate at its most distensible segment, the cecum.

An acute obstruction of the colon is associated with an extremely distended cecum. Clinically the distention of the cecum often can be observed by inspecting the abdomen, and can further be detected by palpation and percussion. The cecum being the most distensible part of the obstructed colon, tremendous intracecal pressure results in a corresponding circulatory embarrassment, and will ultimately perforate unless relieved. This is one of several reasons why we prefer a cecostomy to a right colon colostomy. It affords an opportunity to evaluate the viability of the cecal circulation.

We condemn tubular cecostomy as being conducive to infection and inadequate for the purpose intended. It is of no value from the point of view of subsequent irrigation and preparation of the colon for surgery. It is in reality a cecal fistula and nothing else. It may decompress the colon in part but it provides no avenue for bowel irrigation.

A closed loop colon obstruction results from an annular edematous distal lesion and a competent ileocecal valve, the increasing tension being due to the continuous emptying of the ileum into the colon.

The process resulting in obstruction is more than the tumor itself. It is an inflammatory process associated with edema and proximal hypertrophy of the bowel. This is precipitated by a progressive annular constriction and violent efforts of the bowel above to

push the contents through the narrowed passageway.

#### MORTALITY RATE

Becker<sup>1</sup> reports from the Charity Hospital in New Orleans that in 100 cases of acute obstruction of the colon the mortality was 42 cases.

Wangensteen<sup>2</sup> reported a mortality of 50 per cent from the University of Minnesota Hospital in 20 cases of patients with acute sigmoid obstruction decompressed by cecostomy.

Brindley<sup>3</sup> reported seven deaths in 34 patients with acute malignant obstruction, a mortality rate of 20.6 per cent, and Gregg and Dixon<sup>4</sup> reported a rate of 34.7 per cent in 121 cases. Michel and McCafferty<sup>5</sup> report a mortality rate of 32.4 per cent in 74 cases of acute malignant obstruction. We have had four deaths in 15 cases (26.6 per cent) and three deaths in 38 cases decompressed by our present method using our special cecostomy clamp. One patient died on the fifth postoperative day from a recurrent coronary occlusion and one after cecostomy six days following mid-colon resection with an associated gastric malignancy which, because

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1. Becker, Walter F.: Acute Obstruction of the Colon, *Surg., Gynec. & Obst.* 96: 677-682, June 1953.

2. Wangensteen, O. H.: *Intestinal Obstruction: A Physiological and Clinical Consideration with Emphasis on Therapy, Including Description of Operative Procedures*, 2nd Ed., Charles C. Thomas, Springfield, 1942.

3. Brindley, G. V.: Acute Obstructions of Colon, *Texas State J. Med.* 40: 571, March 1945.

4. Gregg, R. O., and Dixon, C. F.: Operative Malignant Lesions of Colon Producing Obstruction, *Surg. Clin. North America* 21: 1143, August 1941.

5. Michel, M. L., and McCafferty, E. L., Jr.: Acute Obstruction of Colon with Special Reference to Factors of Mortality, *Arch. Surg.* 57: 774, December 1948.

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Read before the Alabama Surgical Section, United States Section, International College of Surgeons, Huntsville, May 21, 1959.



of extensive cecal distention, required cecostomy. The third patient was moribund at the time of cecostomy and did not rally. Peritonitis was not found at autopsy in either of the last two cases.

Becker<sup>2</sup> reports a mortality of 12.5 per cent in eight cases of decompression by right transverse colostomy, and Fallis<sup>6</sup> reported a mortality of 3.8 per cent in 52 patients having transverse colostomy for acute left colon obstruction. They prefer colostomy to cecostomy for colonic decompression.

#### FACTORS CONTRIBUTING TO MORTALITY

Factors pertaining to the patient are related to age, nutrition and serious associated disease. Age, nutritional changes, and many associated diseases often can be compensated for, except in sudden emergencies when time does not permit appropriate preparation.

The chief factors resulting in the high death rate are: failure to appreciate the seriousness of large bowel obstruction; failure to differentiate between large and small bowel obstruction; inadvisable abdominal exploration at the time of surgical decompression; delayed surgical decompression; ill-advised primary resection and anastomosis, and technical errors.

The mortality following the usual tubal cecostomy was high because of the impossibility of aseptic decompression and the difficulty of delivery of an acutely distended cecum into the operative field for decompression.

#### ROENTGENOLOGIC STUDY

Roentgenologic study does not give as much information in the obstructed colon as in obstruction of the small bowel. It does show a distended proximal colon with its characteristic haustral markings, but the exact site of the obstruction often is obscure. Localization of the lesion can be made by means of a barium enema, if the obstruction is complete.

#### SURGICAL PRINCIPLES

Obstruction of the colon presents a complication which prohibits a primary attack

on the lesion, which is in contrast to obstruction of the small bowel. In the former, the problem is to decompress the colon and prepare it for subsequent resection of the lesion, while in obstruction of the small bowel surgical intervention is directed primarily at removal of the cause. Not only in acute obstruction of the colon is decompression desired. In many cases of chronic obstruction of the left side of the colon preliminary decompression of the proximal portion may be indicated. Only on a clean, nonobstructed colon can primary resection and anastomosis be done safely.

Obstructive lesions of the right side of the colon may be decompressed by means of cecostomy with or without ileocolostomy. Ileocolostomy is desirable and sufficient when the lesion is fixed and inflammatory and when the ileocecal valve is incompetent.

Cecostomy as the preferred measure of decompression of the acutely obstructed colon is controversial. Cecostomy as it is usually done, with a catheter held with a purse string in the cecum, and the cecal wall sutured to the parietal peritoneum, functions only as a vent for the escape of gas. Irrigations and bowel preparation cannot be done through a small opening in the cecum fixed to the parietal peritoneum and connected to the outside by a fecal fistula. It is simply a cecal fistula. A similar technic used upon the right colon for the same purpose would be equally ineffective and would be in like manner a colic fistula. It would be of no service as an avenue to irrigate and clean the bowel.

A cecostomy that is comparable to a colostomy with a large outside stoma, such as a colostomy has, is adequate for thorough irrigation and is much easier subsequently to close.

Our cecostomies are made as a colostomy is made, with a large cone of cecum delivered to the outside which provides an adequate external opening for drainage and for irrigation. No suturing of the bowel to the peritoneum or the abdominal wall is necessary. The bowel readily adheres to these structures. Edema of the protruding segment of

6. Fallis, L. S.: Transverse Colostomy, *Surgery* 20: 249, 1946.



cecum in a few hours prevents it from retracting into the abdomen. Our cecostomy clamp retains it outside until swelling and edema occur. The clamp is removed in 48 to 72 hours.\* This is truly a functioning type of cecostomy and has advantages comparable to a colostomy and in many instances superior.

We believe this type of cecostomy to be the best procedure for decompression of the acutely obstructed colon for the following reasons:

First, in acute obstruction of the colon the most distensible part of the colon is the cecum. It is the segment that, in time, may perforate. This will occur when the intracecal pressure becomes greater than the systolic blood pressure. The blood then cannot be carried to the antimesenteric region of the cecum and areas of necrosis will develop.

Second, a surface cecostomy with a good stomal opening permits colon decompression and releases the intracolonic pressure while the site of the neoplasm again becomes partly patent. With the release of this associated agent of obstruction, edema and induration, the bowel may be irrigated and thoroughly cleaned by enemas and cecal irrigations. When the cecostomy has a good open stoma on the surface of the abdomen, in no instance is it impossible to cleanse the bowel thoroughly and prepare it for satisfactory subsequent resection.

Third, the distended cecum is the most accessible segment of the large bowel for surgical decompression. It in no way interferes with an extensive resection often required for lesions of the left colon.

Fourth, decompression of the right colon adds little to the solid character of the fecal discharge and contributes little to the thoroughness of subsequent colon irrigations and cleansing of the lower colon. In either procedure the colon is equally decompressed and the edema and induration of the obstructive site will subside, patency of the bowel will again frequently be reestablished, and

through-and-through irrigation can often be accomplished if the stomas are adequate in size.

Fifth, the right colon is hard to approach surgically and decompress when distended. It delivers poorly, due to omental and mesenteric attachments. A glass rod under the distended colon may, through pressure, erode into a vessel and produce bleeding. A distended right colon is difficult to deliver into the field of operation for such support.

Sixth, a right colostomy imparts no information relative to the viability of the cecum which may contain areas of devitalization which are unknown to the surgeon at the time of right colostomy. If present they will perforate even though a successful right colostomy has been done. This we have seen on three occasions. Most undesirable is the fact that a right colostomy materially interferes with the extensive mobilization often necessary for radical resection of left colon lesions. Left colectomy with contemplated anastomosis of the left transverse colon to the lower sigmoid or rectosigmoid is difficult or impossible to accomplish when a right colostomy is present. This procedure of complete left colectomy is being advocated more and more, as it is frequently surgically indicated for radical extirpation of gland-bearing tissue. In such instances it is usually necessary to mobilize the hepatic flexure for adequate anastomosis without tension. This cannot be done when a right colostomy is present. This can be done easily with a cecostomy. Why then handicap future surgical procedures by a colon decompression which restricts extensive resection, mobilization and secure anastomosis? Especially is this objectionable when decompression and adequate colon preparation for subsequent surgery can be done by a well performed surface cecostomy.

We, therefore, believe a cecostomy with an adequate skin stoma is preferable to right colostomy for decompression of the acutely obstructed left colon due to intrinsic malignant disease.

\* Clamp is made by the V. Mueller & Co., Chicago.



## METHODS OF DECOMPRESSION

Strauss has emphasized the superior value of ileostomy over cecostomy or colostomy in instances of obstruction of the colon and has insisted that the distended colon can be more quickly deflated by passing a colon tube through the ileostomy opening into the cecum. We have tried this procedure twice and have found it undesirable. The colon cannot be irrigated and cleaned for future surgical procedures. Irritation of the skin discredits the procedure.

We do not favor the Devine colostomy or the loop colostomy for acute obstructions when there are lesions present which we hope subsequently to resect. The Devine colostomy is too time consuming and complicated and closure is too difficult. It is not appropriate for a distended colon as a temporary decompressing measure. Loop colostomy is difficult to do in cases of acute obstruction of the colon; the distended bowel cannot be well elevated above the skin level to be supported by a glass rod. Decompression by needle before elevation opens an avenue for contamination through the site of needle puncture. Manipulation is harmful, bleeding may be encountered in the mesentery from passing the supporting rod, and pressure may cause bleeding or necrosis of the bowel. It is not possible in the distended cecum. Insertion of a catheter is attended by great danger of spillage. The operation is insufficient and offers poor facilities for future irrigation of the bowel. We have abandoned both procedures in cases of acute obstruction for the one which will now be described.

## ADVOCATED PROCEDURE FOR DECOMPRESSION OF THE COLON

In instances of acute obstruction of the colon we deflate the distended bowel by needle puncture, grasp the deflated bowel at the point of needle puncture with a flat, no-tooth, thumb forceps, and apply a special colostomy clamp to the suspended cone of bowel. We proceed to close the abdomen around this protruding segment of colon and then open and insert a 16 or 18 F. catheter into the colon through the round opening in

the clamp. This procedure exteriorizes only a small segment of the colon but gives an adequate vent for gas to pass through the catheter.

The clamp can be removed in two to three days after the bowel has adhered to the abdominal wall, and irrigations of the bowel may be started. This procedure does not completely divert the fecal current, and it is advocated only for an acute obstruction due to cancer for which resection is subsequently contemplated.



Fig. 1a. Shows method of deflating cecum by needle puncture.



Fig. 1b. The deflated bowel is clasped at the point of needle puncture with a flat no-tooth thumb forceps.

The catheter acts as a vent largely for gas and prevents redistention of the bowel. The clamp is removed later, or it sloughs off and the bowel is then irrigated and cleansed. This method is simple, practically aseptic and performed without difficulty.



## COMPLEMENTARY DECOMPRESSION

Complementary cecostomy or colostomy accompanying resection and primary anastomosis for a lesion in the left side of the colon or the sigmoid is not to be condemned.

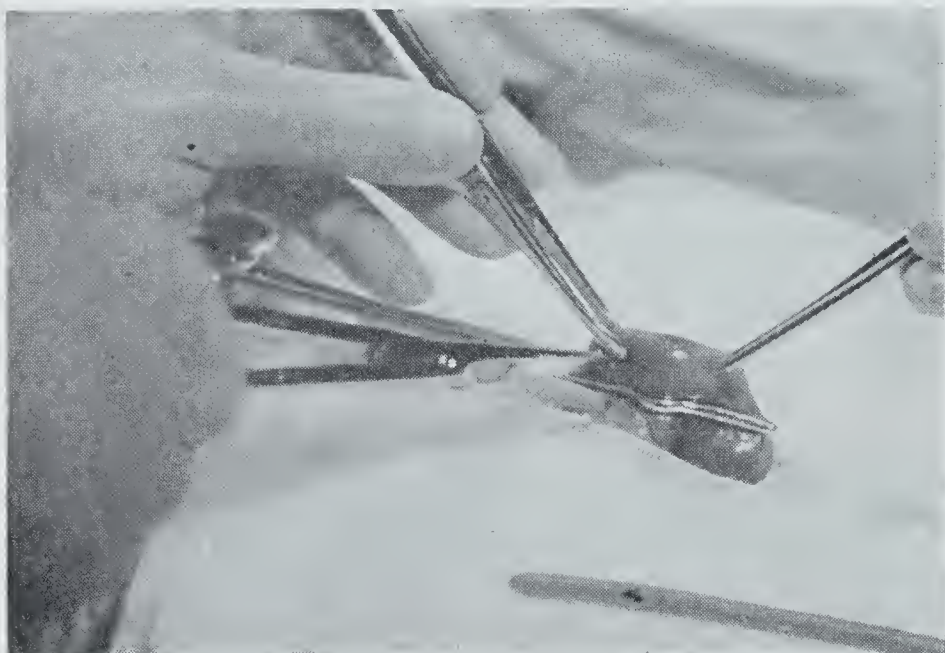


Fig. 2a. Shows segment of bowel suspended by thumb forceps for opening and insertion of catheter.



Fig. 2b. Shows catheter sutured in lumen of bowel through hole in clamp. A wide stoma will result after catheter is removed.

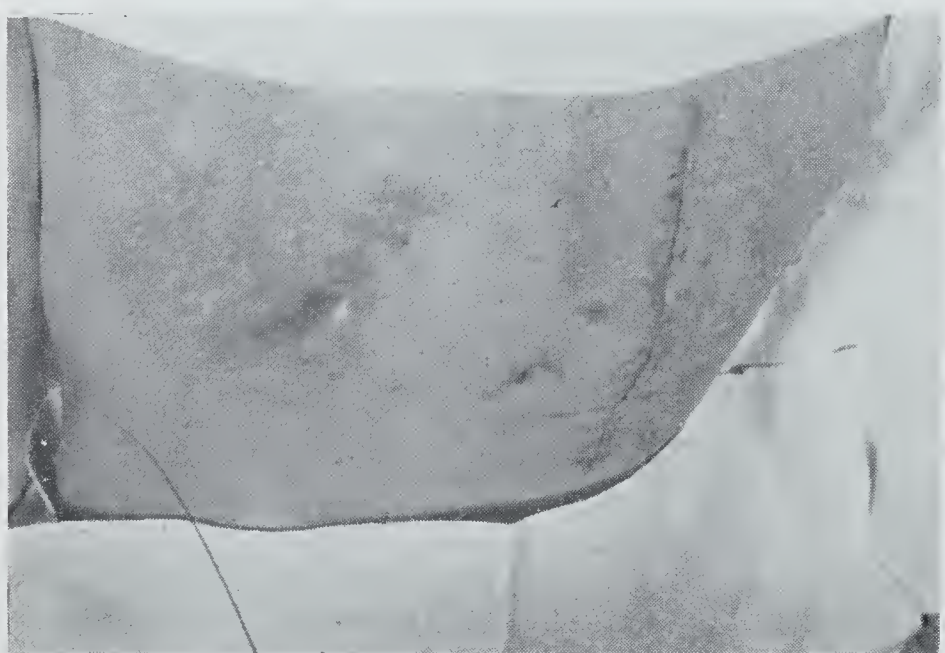


Fig. 3. Shows size of stoma a few weeks later after second operation has been done.

It is commonly practiced by many capable surgeons. We use the same clamp adapted for insertion of the catheter as previously described. It gives a vent for accumulated gas and prevents tension on the suture line. The subsequent closure of the stoma is a small procedure. Spontaneous closure has occurred. The added security is considered well worth the minor inconvenience. By this method there is no large amount of bowel protruding outside the abdomen. It is not distasteful as it is usually flush with the abdomen or slightly retracted below skin level.

## SUMMARY

The mortality rate of acute obstruction of the colon is discussed and statistics are reported. The comparable relationship of obstruction of the colon to strangulated obstruction of the small bowel is mentioned.

The value of a barium enema in obstruction of the colon and its complications are stressed. Sites for decompression based on location of the lesion are emphasized and a special technic for decompression is described.

The technical disadvantages of right colostomy for lesions near the upper left colon are discussed. A similar disadvantage may be present for a low left lesion where extensive resection and mobilization are likely to be required. A tubular cecostomy is only a fecal fistula, a vent for gas escape and furnishes no avenue for bowel irrigation. Its technical steps are conducive to spillage, infection and peritonitis. Suture of the distended colon to the parietal peritoneum is unnecessary and presents avenues for contamination and leakage.

A properly made cecostomy with an adequate surface stoma can serve as an avenue for successful bowel irrigation. Cecostomy by the method described is easily done. It is extra-abdominal and fills all the requirements for decompression and bowel irrigation. No sutures are necessary. The cecum soon will adhere to the abdominal wall.



**Smog Has No Effect on Cholesterol Level**—Los Angeles smog aggravates at least one serious lung disease and a filtered air system should be used to alleviate the problem, three University of Southern California researchers said recently.

Writing in the November 14 Journal of the American Medical Association, Drs. Hurley L. Motley, Reginald H. Smart, and Charles I. Leftwich said the severity of emphysema is aggravated by the type of smog that occurs in Los Angeles.

They pointed out that the composition of smog in Los Angeles differs from that found in other cities, such as St. Louis, Pittsburgh, or New York. They said there is no coal smoke in Los Angeles where the major source of smog is the exhaust from three million cars.

No important lung changes were observed in those with no significant emphysema during studies conducted over a three-and-one-half year period, they said.

The researchers also found that there was a lag of two days before the severest effects of the smog were felt by the emphysema sufferers.

Activated carbon filters were recommended for use both at home and in the office by patients with severe emphysema residing or working in smoggy areas.

"The adverse effect of smog as demonstrated in this study provides a rational basis for the use of carbon filters and justifies their expense," they said.

Significant improvement was noted in persons with severe emphysema after filtered air was supplied to replace the smoggy air. The researchers said 40 to 50 hours were required "to obtain the maximal reversal of the changes resulting from prolonged breathing of smoggy air."

**Accidental Poisoning Cases on the Increase**—An official of the New York City Department of Health termed as "alarming" the increasing number of fatalities from accidental poisonings.

Dr. Harold Jacobziner, assistant commissioner of the department, called for a broad educational campaign to alert the nation to the dangers of poisoning from drugs and household products.

Writing in the November 28 Journal of the American Medical Association, Dr. Jacobziner said, "Fourteen hundred fifty deaths were reported in the United States last year from poisonings by agents other than poison gases and spoiled food. Over 400 of these deaths were in children under five years of age.

"More children under five . . . died last year in New York City from accidental chemical poisonings than from diphtheria, poliomyelitis, rheumatic fever, scarlet fever, and other streptococcic infections combined.

"The alarming increase in both fatal and non-fatal poisonings is related to the rise in new products and to the increase in the population risk."

The doctor said that "internally taken drugs caused nearly 50 per cent of all poisonings, with

barbiturates and aspirin as the chief offenders. Next in frequency were poisonings due to household preparations followed by those with externally applied drugs and cosmetics, pesticides, and miscellaneous products such as lead."

In offering a solution to cut down on the number of such accidents, Dr. Jacobziner said that nearly all poisonings are preventable.

"The most important item in prevention is knowledge and information about the risk involved and the population risk. Regulations and labeling alone will not prevent accidental poisonings but must be coupled with education."

He urged that such an educational program be based on facts, accurate, reliable, devoid of overdramatization, simply told, and pinpointed to the vulnerable groups and the specific hazards.

Key points in such a program, the doctor continued, should include strong emphasis on the need for keeping medications in their original containers and also for keeping all drugs and preparations out of reach of children.

He said that proper labeling of toxic substances, as recommended by the A.M.A. Committee on Toxicology, is exceedingly important. These recommendations are embodied in H. R. 7352 which was introduced in Congress by Representative Thomas B. Curtis (R-Mo.) and is pending before the House Interstate Commerce Committee.

In concluding, Dr. Jacobziner said, "Prevention is possible through education at all levels. Education requires an integrated team approach with the family physician as key member of the team. Accident prevention . . . merits the greater attention and involvement of the practicing physician."

Evidence giving weight to the hope that acute respiratory infections may eventually yield to vaccines is presented in the current issue of *Patterns of Disease*, a publication prepared for and distributed to the medical profession by Parke, Davis & Company. "Various studies indicate that vaccination against Asian influenza was 50 to 75% effective," the publication says. In one school, the incidence of influenza was 38% among vaccinated and 62% among non-vaccinated children. Further, in an industrial study, an estimated 5,296 working hours were saved by vaccinating 2,730 employees.

Studies with influenza vaccines point up the importance of developing polyvalent vaccines effective against multiple strains, *Patterns* adds. The studies showed that vaccine containing antigens against only one or two strains of flu proved ineffective since new strains appeared unexpectedly. "The interval between laboratory detection of a new strain and development of its epidemic is too short for production of new strain-specific vaccines," according to the publication.

As far as acute respiratory diseases of undifferentiated character are concerned, it has been estimated that "an appropriate vaccine must contain 25 distinct viral antigens to protect children."





## ANTIMICROBIAL DRUG RESEARCH

"New lines of thought and new programs of research" to develop drugs totally effective against surface infection were mapped out to a meeting of medical scientists by Dr. Rene J. Dubos of tyrothricin-gramicidin fame.

The distinguished microbiologist, addressing the Seventh Annual Antibiotics Symposium, presented evidence from his life-long work with germ-killing agents that the key may be to employ antibiotics in tandem with drugs which modify tissue environment. He made a strong plea for intensive study of tissue factors as a first step.

He offered the fact that the therapeutic activity of para-amino-salicylic acid (PAS), a vitamin-like factor, in experimental tuberculosis can be made more evident by limiting the dietary intake of methionine, one of the eight amino acids (the building blocks of protein) which the body cannot make from raw materials. This was an example of the new approach to the problem that might bring positive results, he said.

The Rockefeller Institute researcher is the discoverer of tyrothricin and gramicidin, manufactured by the Wallerstein Company of New York, a division of Baxter Laboratories. Widely used in ethical and proprietary drug preparations, these were the first antibiotics ever to be employed in general clinical practice. Dr. Dubos' talk opened the second day's program of the symposium sponsored by MD Publications, Inc. Some 1,000 scientists and pharmaceutical industry representatives attended the sessions.

A cornerstone of his proposals was the fact that the presence of certain antimicrobials, such as gramicidin, are compatible with the operation of the body's normal defense mechanisms which go into action at the site

# Editorials

of local infection. "This point of view," he said, "might serve as a guide to reconsider some of the pessimistic philosophy concerning the treatment of local infections by antimicrobial drugs."

"There is enough general understanding to warrant new lines of thought and new programs of research," he said. "It is a fact that the antibacterial drugs in common use are most effective against the acute phases of systemic infection." He suggested that this was not surprising, in view of the confined range of techniques used for the selection of these drugs. "The universal practice," he pointed out, "is to look for substances active against pathogens at pH7.0-pH7.4 in simple culture media free of inhibitors." This reference relates to the acid-alkaline range of the blood, a range which does not cover that found in walled-off abscesses and other localized infection. As Dr. Dubos put it, "These test conditions favor the discovery of agents active in the blood stream, but they almost prevent the discovery of agents capable of acting in inflammatory and necrotic areas."

"I wonder whether the time has not come to broaden the range of the conditions used in screening tests both *in vitro* and *in vivo*," he continued. "It might save investigators the boredom of rediscovering endlessly and uselessly substances identical or similar to those that other toilers in the same field have discovered before them under exactly the same conditions."

"I would plead also for more research into the host factors which may play a role in inhibiting or enhancing antimicrobial therapy drugs *in vivo*. . . . There are several suggestive lines of approach both for experimental and clinical work," he said.

"Let me mention two examples entirely



unrelated, merely as illustrations of the wide range of techniques which probably could be found to enhance the activity of different antimicrobial drugs. One of these examples is provided by the fact that the therapeutic activity of PAS in experimental tuberculosis can be made more evident by limiting the dietary intake of methionine," Dr. Dubos said. He suggested that a second approach might be evolved from the boosting of the effects of sulfa drugs against resistant pneumonias with synthetic sugar-like compounds related to the blood groups and types—"chemotactically active" polysaccharide fractions.

Tyrothricin and gramicidin lend themselves extremely well to such studies, Dr. Dubos said.

#### FOOTPRINTING OF INFANTS

Legible footprinting of infants at birth is a positive means of identification vital in cases "where law enforcement has an interest," J. Edgar Hoover said in an article published recently.

Writing in *Hospitals*, Journal of the American Hospital Association, the Director of the Federal Bureau of Investigation said such cases involve "kidnaping, abandonment, or unexplained death of a child," as well as "those rare cases when a question is raised by parents as to the identity of a child."

Mr. Hoover cited the 1955 abduction of a three-day-old baby boy from a San Francisco hospital. Several days later, a baby answering to the general description of the missing child was found in New Jersey. Through a comparison of footprints, he said, the FBI determined that this was not the same child. A few days later, a baby was found in a church in Stockton, California, and was positively identified as the child being sought by comparing his footprints with hospital footprint records.

Mr. Hoover also mentioned the 1956 case in Washington, D. C., in which a mother was discharged from the hospital, leaving her premature baby there for further treatment. When she came to take the baby home, she did not recognize it and refused to accept it

as her own. The mother said that the beaded name bracelet used by the hospital might have been placed on the wrong child. She was only convinced, Mr. Hoover said, when FBI experts compared footprints taken on the day of the baby's birth with footprints taken the day the mother made her complaint.

He added that "the mother's doubt was erased and the hospital relieved of a situation that has in many cases resulted in extreme embarrassment, and, in some instances, extensive and expensive litigation."

Footprinting should not, he said, replace other methods of identifying infants, such as bracelets carrying the baby's name, but should rather supplement such devices.

He noted that, just as on the hands, the arrangement of ridges on the soles of the feet is "never duplicated in other persons."

Footprinting is more practical than fingerprinting in infants, he said, because the area is larger and is also more rigid due to the lesser movement of the joints.

It is most important, Mr. Hoover said, to insure legibility of footprints by instructing one or more permanent members of the obstetrical staff in the proper method.

"In many cases," he continued, "inexperience, lack of necessary knowledge and careless or hasty methods of taking infant footprints have produced foot impressions showing no ridge detail. Thus, they are useless for identification purposes."

Hospital personnel need not be taught to read footprints, he said. He pointed out that this can be done by an expert. However, to insure legibility, Mr. Hoover believes there should be "a brief footprinting course . . . in all nurses' training schools." He said that "two- or three-hour courses by qualified fingerprint technicians should suffice."

#### CATCH-AS-CATCH-CAN HYPNOSIS

If your child has a bad cut or breaks a bone, the best immediate treatment (for comfort's sake) may include informal hypnosis.

In an article in the November issue of *GP* magazine, Dr. J. B. Deisher points out that a light hypnotic trance will relax the child completely. From this point on, the squirm-



ing, frightened child becomes a cooperative patient. Treatment is easier and less painful.

The Seward, Alaska, general practitioner said the injured child, after a good cry, will usually drop off to sleep. The child is then gently awakened and led into light hypnosis by quiet conversation. Dr. Deisher said he tells the child, over and over again, that "everything will be all right." He also applauds bravery.

In one case, a three-year-old girl had a deep gash across the bridge of her nose. When the doctor first saw her, he told her what had happened and what he was going to do, asking if it would be all right if he fixed it without hurting her. She thought this was a fine idea.

He then asked her to take deep breaths and to close her eyes. This was done several times before taking her into the emergency room.

Before the doctor cleaned her face, he put sponges over the child's eyes, telling her that this was to keep the cleansing solution out. As the soapy sponge moved over her face, he kept telling her exactly what was happening. Gradually the sponge reached the cut. The little girl was quiet even when the cut was washed with soap and water. The doctor then injected a small amount of local anesthesia around the edges of the cut. During the entire time, he kept suggesting that she would go to sleep and stay asleep until someone told her to wake up. This, plus frequent comments on what a fine girl she was and how proud her parents would be of her, put her into a light trance.

The sponges fell away from her eyes, which were nearly closed. The cut was cleaned again, removing stray pieces of gravel, and then stitches were taken. Even though it was possible for the little girl to see the needle and sutures, she was absolutely motionless.

Although the local anesthesia was given as a precautionary measure, Dr. Deisher said he believed afterward that hypnotic anesthesia of the area was sufficient for treatment, and that the local was unnecessary.

The acutely injured patient is a good sub-

ject for hypnosis but is completely uninterested in formal induction, the family physician said. The patient wants something done right away and subconsciously longs for magic or a miracle to "take away the hurt." With conversation aimed at diversion, ego inflation and reassurance, the physician can easily lead the patient from relaxation to "sleep."

In a small isolated community, where the assistance of an anesthetist is not always available, "catch-as-catch-can" hypnosis is often the best medicine.

*GP* is published monthly by the American Academy of General Practice.

#### ACUTE CONDITIONS AMONG CHILDREN

The extent to which acute illnesses and injuries—including everything from chickenpox and sore throats to appendicitis and broken legs—are concentrated among children is documented in a report by the Public Health Service's National Health Survey, released recently.

The report discloses that during the year ending June 30, 1958:

—Young children suffered acute illnesses with twice the frequency of adults. The incidence rates for acute illnesses involving either restricted activity or medical attention ranged from a high of 4.0 occurrences a year for children under 5 to a low of 2.0 occurrences for adults 25 and over.

—On the other hand, adults over 25 averaged almost twice as many days of restricted activity from illness or injury as persons under 25. For different age groups under 25, the days of restricted activity per person per year ranged from 13.2 to 16.4, as compared with 24.1 days for adults over 25.

—Home accidents among children under 15 years of age were the chief cause of injuries restricting activity or requiring medical attention. They were an important cause, along with motor vehicle and work accidents, of restricted activity in the 15-24 age group.

The report also gives figures, for persons under 25, on impairments, limitation of activity and mobility due to chronic conditions, hospital discharges, physician visits, and



dental visits.

The estimates are derived from interviews conducted for the National Health Survey by the U. S. Bureau of the Census with a representative sample of the civilian, non-institutional population. The information recorded about individuals is confidential and only statistical totals are published.

Entitled "Children and Youth, Selected Health Characteristics, United States, July 1957-June 1958," the new report is Public Health Service Publication No. 584-C 1. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 35 cents each.

#### NEW LINE IN INFANT FEEDING

What's his line? It's revolutionary. It concerns infants, children and adults. Ten years ago, it aroused strong skepticism among doctors and nurses. It completely upset many young mothers whose friends said "it wouldn't work." But today, because his line is based on studying child care problems of mothers with not just one, but two, three and four children, plus his own experiments and experiences, there's a new line in infant feeding.

Dr. Walter W. Sackett Jr., Miami, Fla., is the advocate of "early addition of solid foods in diets of infants, and a six-hour feeding schedule."

In 1949 Dr. Sackett, activated by an awareness of the problem eaters among babies and children in his practice, instituted a baby feeding regimen completely opposed to the then (and still) currently accepted "demand" theory of baby raising. This new concept makes use of a 6-hour interval between feedings, introduction of solid foods at 2 or 3 days of age, and refusal to let baby's "demands" decide his way of life.

The solid food aspect doesn't mean that baby is going to have a T-bone steak in his first week of life. What it does mean is that at two to three days of age he is given cereal at 12 noon and 12 midnight because this is the handiest time for nurses in hospitals to get out on the floor and teach mothers how to give the cereal. Dr. Sackett says

that, contrary to popular notion, mothers almost never have difficulty introducing cereal to their babies when it is offered in the consistency of putty, instead of the thin mixtures many baby food companies market.

All features of Dr. Sackett's practices were seen at Southern Medical Association's 53rd annual meeting in Atlanta, Nov. 16-19, where the doctor and his wife manned one of the 79 scientific exhibits, full of charts, food samples, demonstrations, appealing human interest photos—and copies of a delightful booklet, "A Manual on Baby Feeding."

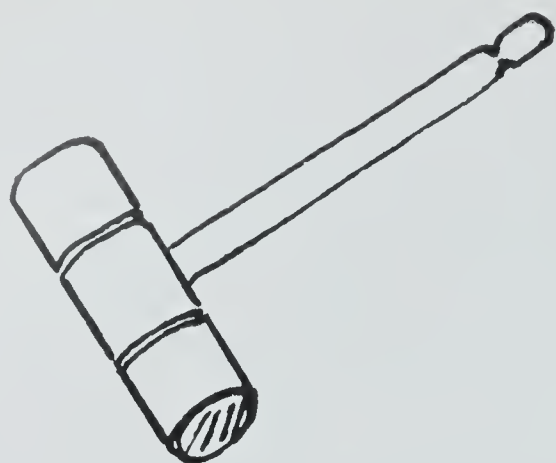
Two of the earliest participants in this baby raising plan were the Sackett's youngest children, now 9 and 7 years of age. Convinced by personal experience, Mrs. Sackett joined in wholeheartedly and her part in the program is pointed up by the almost unanimous remarks of mothers: "If I have a baby feeding question, I would much rather talk to Mrs. Sackett than Dr. Sackett."

One great advantage of the Sackett plan is that by the age of 10 or 12 months, baby is eating almost entirely from the family menus—a boon to mother and dad, workwise and financially.

Dr. Sackett adds quite a bit of philosophy to his baby-raising ideas, which is the part of his line that affects today's homes and tomorrow's citizens. He believes that baby should get attention only when he is happy and be practically ignored when he "demands" by crying and other ingenious infant devices for attention. Refuse him the upper hand, the doctor says, in every situation and particularly with reference to his eating habits. (Allergy to a food should be the only reason for withholding it.) He urges parents to take stock of what they want for their children and cautions that the well-adjusted personality will not bloom where we have allowed selfishness and self-will to grow.

Dr. and Mrs. Sackett have always hoped some day to have a reunion of their "6-hour babies." At first, such an event was precluded by a busy practice and tight schedule. But now there is the growing specter of entertaining some 1,500 babies, ranging in age from new-born to 10 years.





# President's Page

## FIFTY YEARS AGO

**I**N 1910 the Medical Society of Jefferson County had 236 members, Mobile 61 and Montgomery 65. Today, there are 639 in Jefferson, 231 in Mobile, and 145 in Montgomery. Fifty years ago Bullock had 18 members, Coosa 16, Greene 16, Hale 22, Lowndes 19, Monroe 26 and Washington 13. In contrast, Bullock now has 5, Coosa 1, Greene 2, Hale 5, Lowndes 3, Monroe 8, and Washington 3. Laying aside the matter of population increase in the largest counties, demanding a larger proportion of the state's physicians, an obvious conclusion is that many other counties have suffered from the want of sufficient medical men to meet their needs. This, almost alone, prompted the Association to establish a physician placement service that has functioned admirably. The passing of the years has witnessed other changes, as the record of fifty years ago reveals.

It was at the session of 1910 in Mobile, under the presidency of Dr. W. M. Wilkerson of Montgomery, that a special order of business was a joint meeting of the Association with the Alabama Pharmaceutical Association; and Dr. H. A. Moody of Mobile, on behalf of our Association, delivered a felicitous address of welcome. Said Dr. Moody: "The distinguished physician who presides so ably over this session of the Association has crowned me with unmerited honor in selecting me to express, in his name and that of the Association, the sincere pleasure conferred by this neighborly visit of the Alabama Pharmaceutical Association.

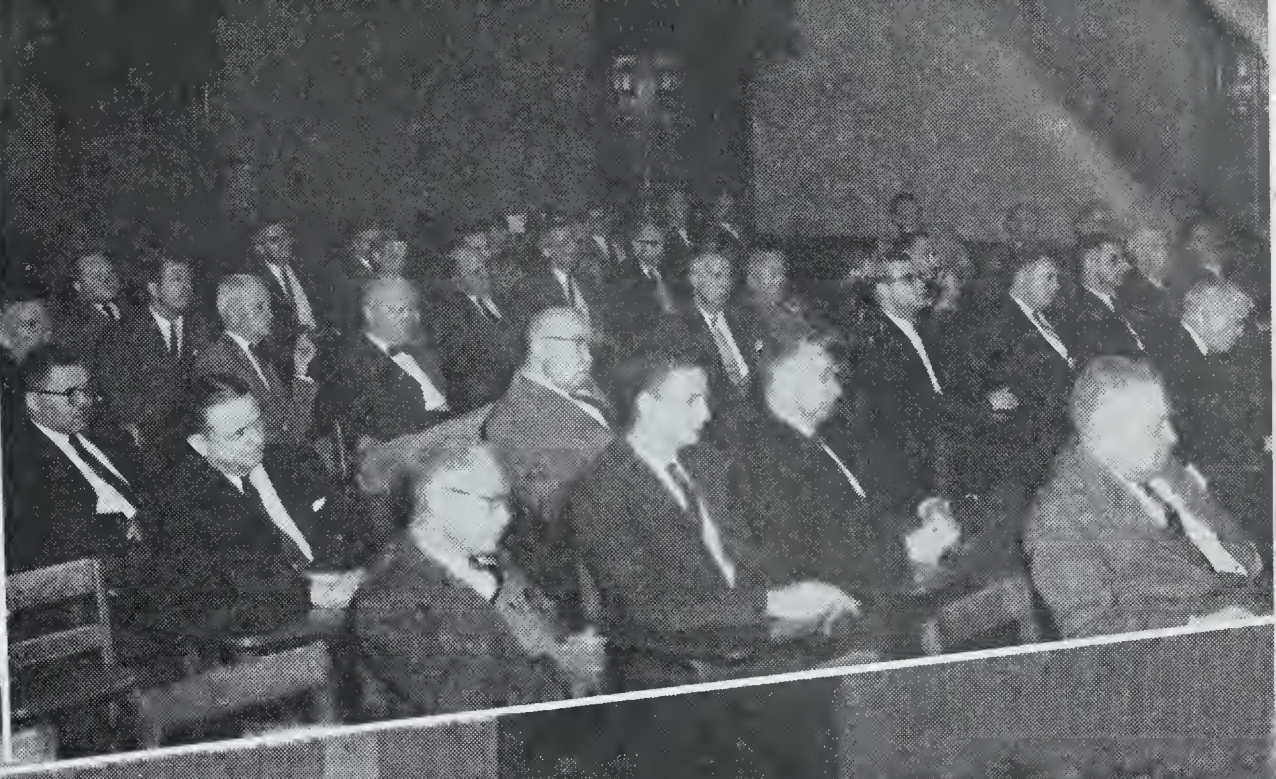
"We have come a long way together, you and we, treading the dim paths of the centuries. There was a time when we were one,

when there was no distinction between druggist and doctor. It is said that Hippocrates carried his own medicines with him. But somewhat later we read that Galen kept his drugs in a place he called his Apotheeke, and naturally the person who presided over it was an Apothecary, and that honorable title, spelled in various ways, has descended through the ages to the present generation. Hence we find that in the fifteenth century the Apothecary's Society of London was legally authorized to grant licenses to physicians to practice medicine, a custom that savors to us like putting the cart before the horse. Yet, by the way, I have heard that certain agencies would welcome something very similar to that condition today, and that in a certain state a law has been proposed to compel physicians, who would supply their own drugs to fill their own prescriptions, to be examined as to their competency by a Board of Pharmacists. But times have changed. The charms and talismen, splinters of the true cross, bones of saints and similar elements of power have disappeared from medicine, just as the Apothecary is no longer considered a lean and withered anatomy, living surrounded by dried roots and herbs, and with stuffed snakes and alligators hanging around the walls of his shop. Those days of magic and mystery are gone forever. Today medicine and pharmacy are aligned into two grand divisions of one great army."

And that they might remain so was the hope of Dr. J. D. Humphrey of Huntsville who replied in the name of the druggists.

*W. R. Carter*





## CONGRESSIONAL DISTRICT MEETINGS







## ORGANIZATION SECTION

### FORAND BILL

To alert the physicians of Alabama to the dangers of the Forand Bill, The Medical Association of the State of Alabama, in cooperation with the American Medical Association, held orientation meetings in each Alabama Congressional District during November and December.

Representatives of each county society were presented with facts on the Forand Bill at these meetings (pictured on preceding page), and were given a kit of informational material that explains what the Forand Bill is, what effect it will have on American medicine, and what you as a physician can do about it.

The reasons why the Forand Bill must be vigorously opposed were adequately expressed by Dr. M. Vaun Adams, chairman of the Association's Committee on Legislation, in a speech delivered at the Opp and Mobile meetings. Dr. Adams' remarks are printed below to help you familiarize yourself with the implications of the Forand Bill.

"There is a profound sense of uneasiness throughout the world concerning American medicine today. The symptoms take many forms. Doctors are concerned, not only about their incomes but also about the threats to their professional freedom, and to the time-honored doctor-patient relationship. The public, alarmed by every rising medical cost and particularly hospital costs, is voicing louder and louder demands for protection from financial hardship caused by illness. Badly stated, the fundamental issue of the whole heated debate now going on is whether this protection can be secured within the framework of a private voluntary system of health care, or whether it requires government intervention. I want to stress that we, the medical profession, are in the vanguard of

this fight. It was not our choosing—it was forced upon us. The opposition will direct the strategy and will call the plays, when and where they will be most effective.

### Socialized Medicine First Step

"The medical profession has accepted the leadership of the opposition forces and we cannot fail to do everything in our power to stop this march toward complete socialism. Karl Marx, in his *Manifesto*, pointed out that a prerequisite to the socialism of a country is the domination of the medical profession. This observation was true because history shows that in every socialistic country the medical profession was the first to be socialized.

"At the Washington hearings on the Forand Bill, Dr. Frederick C. Swartz, Chairman of the A. M. A.'s Committee on Aging, predicted that the passage of the Forand Bill (H. R. No. 4700) would enable the federal government to finance the health care of OASDI beneficiaries through compulsory and earmarked taxes; to control disbursement of funds; to determine the benefits to be provided; to set the rates of compensation for hospitals, nursing homes, dentists and physicians; to audit and control the records of hospitals, nursing homes, and patients; and to promulgate and enforce standards of hospital and medical care.

"Arthur S. Flemming, Secretary of the Department of Health, Education and Welfare, stated at the hearings that the enactment of the Forand Bill would establish a course from which there would be no turning back, that health coverage of the aged would 'become frozen in a vast and uniform governmental system, foreclosing future opportunity for private groups, nonprofit and commercial, to demonstrate their capacity with the health insurance problem.' It is known



that he is having his department draw up proposals to provide federal subsidies for private insurance carriers to enable them to cover the worse than average risks, presumably with Blue Cross participation. He will probably present this proposal to Congress at the next session when the Forand Bill comes up again.

"Secretary Flemming also warned that such legislation would result in strong pressures to extend the benefits further, with the result that voluntary insurance 'might soon be eliminated from the entire field of health protection for the aged.'

"Speaking in opposition to the Forand Bill, Mr. E. J. Faulkner of the Health Insurance Association of America pointed out that the proposed legislation fails completely to meet the only real problem of financing health care costs of the aged—that of the presently indigent aged. The proposal, he said, would impose additional taxes on millions of Americans to provide benefits for many who do not need or want them, and it would fail to help the only segment of the aged who have a demonstrable need.

#### **Backers of the Forand Bill**

"Who are the proponents of the Forand Bill? The main backers of the Forand Bill are the AFL-CIO, United Automobile Workers, Americans for Democratic Action, American Public Welfare Association, United Ladies Garment Workers Union, Physicians Forum, and the American Nurses' Association. These long range socialistic planners have great finesse and are willing to take many years to accomplish their objectives. They have infinite patience and have devised many methods to improve and capture their ideals. A few of these methods will be enumerated.

"1. Divide and conquer; this was done with the American Nurses' Association.

"2. Labor set out to capture the American Hospital Association. A titanic struggle was waged before the friends of the A. M. A. finally won.

"3. They have attempted to capture Blue Cross-Blue Shield and this was almost accomplished.

"4. They are attempting to infiltrate and regulate all types of private insurance.

"5. They are continually working on management. They use the tactic that management should let the government take care of the retired workers. Otherwise, under collective bargaining, management would have to pay for old age pensions. This was a smart tactic and it shows they are pulling every string.

"6. They would like to create the idea in Congress, and with the general public, that they are experts on socialism, such as Wilbur Cohen.

"7. Destroy the image of the American Medical Association. Attack the A. M. A. any time at any place. They will leave A. M. A.'s good points alone, bring out the bad ones, or those that are subject to controversy. They have attacked the A. M. A. with articles in lay journals that are certainly slanted and detrimental, and will continue to do so.

"8. They attempted to mobilize the aged but apparently failed miserably.

"9. They would create the idea that there is a crisis in the aged, that something must be done. This is extremely important and they have handled it exceedingly well.

"10. They may narrow the issue; for instance, they may drop surgical benefits in 1960, but come back the next year for surgical benefits and lower age limits.

"11. Repetition. They keep repeating that the Forand Bill is inevitable. Why not now? They keep repeating that the A. M. A. is wasting its time; that legislative action of this type is inevitable.

"12. Soften up the opposition. They have various maneuvers. They will gain support from one group for one cause, thus preventing their opponents from having a solid front.

"13. They were undoubtedly responsible for instigating the labor disputes against hospitals in New York City. This was done to increase the cost of hospitalization.

"14. They will infiltrate anywhere and everywhere—nurses, hospitals, legislators, etc.



"15. Create a demand for public action on the health care of the aged through newspaper publicity and paid advertising, and by fostering hearings on various issues.

"16. Our opponents are extremely smart and very, very patient. We can only win by getting to the grass roots. We must mobilize our strength there, through the doctors, chambers of commerce, dentists, nurses, hospitals, and all other similar allied branches.

#### Blue Cross and Labor

"You must realize that the Forand Bill is closely connected with hospitals, and particularly with the aged who are being hospitalized. Hospitals are very closely associated with Blue Cross and, in many instances, they have interlocking directors and administrators. Blue Cross is the bulwark of the voluntary insurance program. Many question the philosophy and the socialistic tendency of numerous Blue Cross officials. If Blue Cross fails, the voluntary insurance program will suffer a severe defeat. Possibly the death of Blue Cross would be the death of voluntary health insurance.

"Dissatisfied with Blue Cross and impressed with the success the United Mine Workers have had with their own hospitals, organized labor is seriously considering building and running its own facilities. A month ago, in a bitter denunciation of Blue Cross' high rates, limited coverage, and insufficient community (labor) representation, the New York City's AFL-CIO Central Labor Council proposed that the unions develop not only their own system of hospitals throughout the five boroughs of New York City but also their own medical-insurance program, and possibly their own medical school.

"Labor has also launched a belated drive to unionize nonprofessional hospital workers, a grossly underpaid group that for years has been partly subsidizing the medical care of all of us. Once again, Blue Cross is caught in the crossfire.

"Some opponents of the Forand Bill have argued that federal hospital insurance for the aged would not only slow down the growth of private insurance but would lead

inevitably down the road to government control of all health services. On this score it should be noted that 44% of the nation's 6 billion dollar hospital bill is already being paid for by the government via public funds. The federal government pays 14% of the cost through its veteran and military programs, and state and local governments pay for 30%. Only 28% is paid by private insurance, which includes Blue Cross hospital payments of \$1,357,392,014 in 1958. In short, the government is very much in the health care business, and has been for some time.

"An Ohio Blue Cross official recently proposed that the American Medical Association set up what in effect would be a super-Blue Cross plan, to be called the American Blue Cross. Under this plan American Blue Cross would be chartered by Congress, and it would cover both major and minor hospital, medical, and dental bills. It would be available to everybody, including the unemployed and the retired. Unless this radical step is taken, he warned, 'the question as to whether we are to have a governmental health system in the United States will be decided affirmatively tomorrow.'

"Blue Cross has often aggressively sought a role as the government's agent in many medical matters. After first asking for all or none of Medicare, the government paid health insurance for dependents of the armed forces; Blue Cross eventually settled for two-thirds of the business. Should the Forand Bill, which would provide hospitalization and related services to social security beneficiaries, ever be passed (and it appears more likely to pass at each session of Congress), Blue Cross would probably become its fiscal agent.

#### Now's the Time to Act

"Despite the strong and reasoned protestations made by the opponents of the Forand Bill before the House Ways and Means Committee, enactment of a Forand-type bill is in the offing unless the elected legislators in Congress can be convinced that precipitous, precedent-setting political action by Congress is dangerous to the national economy, to the



practice of medicine, and to the voluntary system of prepaid medical care that the medical profession is dedicated to protect.

"You have had a program of action presented to you. Basically, it boils down to:

"1. Each of us must familiarize himself with the Forand Bill.

"2. Each of us must become a missionary within our circle of acquaintances and explain to our patients and friends the dangers of political medicine.

"3. We must be prepared to write letters ourselves, and encourage others to write to their own congressmen, setting forth the reasons why the Forand Bill is bad medicine for the nation.

"4. We must continue to work toward the improvement of our indigent health care laws and programs wherever they need it and encourage the purchase of Blue Cross-Blue Shield, and private health insurance by people of all ages.

"5. Finally, let us continue to work in every possible way to reduce the cost of health services, particularly in developing new and improved facilities specially tailored to the particular requirements of the elderly.

"There is a big job to be done. It is the responsibility of every physician, of every county medical society, to steadfastly oppose this type of legislation . . . which will inevitably destroy the practice of medicine as we know it today. If you sincerely believe in our methods, and in the ideals of our profession, then you have a distinct responsibility to your profession . . . to those men of medicine who will follow us . . . and to the people who look to us for health care and guidance.

"The American Medical Association is giving us spirited and effective leadership in our battle for survival. Your State Medical Association is attempting to do likewise. Now it is your turn. The tide of the battle will depend on how each individual physician shoulders his own responsibility and fights this challenge of socialism."

## MEDICAL REPORTER AWARD

Judges for the Public Relations Committee's "Medical Reporter Award" will meet on January 16 to consider the names of the journalists that have been nominated for this award, according to Dr. J. Michaelson, committee chairman.

The purpose of the award, Dr. Michaelson said, is to pay tribute to Alabama reporters, editors and publishers who have been outstanding in the field of medical news writing.

The judges, he explained, can grant up to five such meritorious certificates in a single year to members of the journalism profession for their accurate and factual reporting of medical news to the general public, and for outstanding work in promoting and elevating medical news.

## DISASTERS

A meeting of the Association's Disaster Committee was held in Montgomery on November 19. The meeting was designed to augment efforts of the Disaster Committee to effectuate a working organization of a disaster committee in the various counties.

In the beginning, it was recognized that the American Medical Association was pushing vigorously toward total and effective organization of each state medical association to cope with a potential disaster of any magnitude, whether natural or man made. The table of organization of the State Association was reviewed. Recommendations submitted to the Board of Censors and accepted by that body in 1957 were reviewed. The substance of these reviews was that the effective organization of each county society should be the basis for the state organization. In assessing the program of organization on the county level made during the past two or three years, the committee felt that the county societies in general had not organized to their fullest potential. This, in a time of peace and prosperity, is entirely understandable. On the other hand, the assembled group agreed unanimously that efforts to or-



ganize for potential disaster must be augmented.

Because of the geographic distribution of physicians throughout our state, it was recognized that complete organization of each county was certainly not feasible nor necessary. On the other hand, the more populated counties in the various parts of the state could and should be thoroughly organized. The group arbitrarily selected the following communities as being essential in disaster planning. Huntsville, the Tri-Cities (Florence, Sheffield and Tuscumbia), Decatur, Anniston, Gadsden, Tuscaloosa, Selma, Sylacauga, Dothan, Brewton, Montgomery, Mobile and Birmingham.

Noting that organization of an effective disaster program in each of these communities would require strong leadership, the group expressed the opinion that such leadership should appropriately and most effectively come at the state level. It was further noted that the table of organization for the State Medical Association designated the post of State Disaster Director and that this post had never been filled. It was the firm conviction of those present that this director was the logical individual to accomplish organization of the above county societies into effective working units. It was envisioned that such director must necessarily be a man of recognized administrative ability and one who possessed the ability to assume aggressive leadership. The director, of necessity, would travel to each of the proposed areas of organization and designate in each area a contactman who would direct the activities of the respective county societies. Several individuals who might possibly fill this post were mentioned, and the name of one was suggested for submission to the President of the Association as a possible appointee. It is hoped that this individual will accept the appointment to this post of great importance.

## ESSAY CONTEST RULES CHANGED

This year for the first time physicians' children can participate in the Association's an-

nual essay contest. In the past, high school students whose fathers were members of the medical profession could not participate.

A sample poll conducted by the Committee on Public Relations showed that members of the Association felt that the ruling was discriminatory, thus the committee voted to change the rule. The contest is now open to all white 10th, 11th, and 12th grade students of public, private, and parochial schools throughout the state of Alabama.

The student writing the best original composition on "Medicine as a Career" or "America's Health—Ours to Preserve" will be presented a check for \$100.00, and will be invited to read his (or her) paper at the annual session this spring. Second and third prize winners will receive checks for \$50.00 and \$25.00, respectively.

Essays will be judged on knowledge and understanding of the subject as well as composition, according to Dr. J. Michaelson, chairman of the committee. Dr. Michaelson pointed out that the essays must be typed, not more than 1500 words in length, and must be mailed to the Association headquarters in Montgomery before the 15 of February.

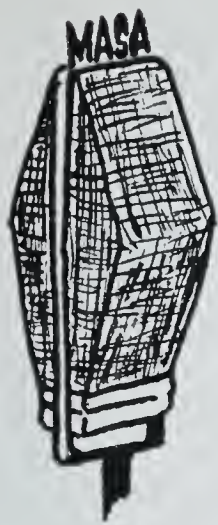
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The Asian flu epidemic, which started in the spring of 1957, "gave health officials their first opportunity to study and predict the progress of an influenza pandemic," according to the current issue of *Patterns of Disease*, a publication prepared for and distributed to the medical profession by Parke, Davis & Company.

Medical investigations were touched off by the report of an influenza outbreak in Hong Kong on April 18, 1957. Although the first American outbreak occurred on June 2, 1957, aboard naval vessels in Newport, Rhode Island, Asian flu did not spread to civilians. Cross-country seeding of the virus got under way from California where a series of outbreaks occurred among members of the armed forces and civilians between June 11 and June 20. Thereafter, outbreaks appeared among persons attending conferences in Iowa and Pennsylvania.

"Epidemiologists charted the probable further spread, and later outbreaks largely confirmed their predictions," *Patterns* states. The course of the epidemic was followed also by weekly estimates of new cases of acute respiratory disease involving at least 1 day of bed disability. A peak of 11,933,000 such cases was reached in the week of October 13, 1957. Peaks in influenza-pneumonia mortality occurred in November 1957 and March 1958.





## ASSOCIATION FORUM

### LIFE EXPECTANCY RECORD HIGH— HEALTH LEVELS IN FOUR ADVANCED NATIONS

World Health has improved notably during this century, but progress has been particularly great in the nations of northwest Europe, the United States, and the British Commonwealth. Here life expectancy has reached the highest levels in history, and the mortality of each age and sex group—especially among persons below 45 and women at all ages—has been reduced to a record low, according to the Health Information Foundation.

The communicable diseases have been greatly reduced as major causes of death, thus bringing into prominence the diseases most common in later life and accidents. Childbirth and infancy have become safer than ever, and general health levels have greatly improved.

This article discusses the health record of the United States since 1900, as reflected in its mortality statistics, along with that of England and Wales,<sup>1</sup> Sweden, and France. These nations have achieved levels of health among the highest in the world, and they were selected for this analysis as representative of the “advanced” nations (in the public health sense) and because obstacles to international comparability of their statistics are relatively minor.

During the 20th century these nations experienced many parallel social changes, but there have also been significant differences, and even some divergent trends, in their development. For example, although as a group they are considerably more urbanized

and industrialized than the “underdeveloped” nations, England and the U. S. far exceed Sweden and France in this respect. Thus, the percentage of their populations residing in cities of 100,000 or over were: England (1956), 38; United States (1950), 29; Sweden (1956), 19; and France (1954), 17.

Ethnically, England and Sweden represent relatively homogeneous populations while the U. S. and France have absorbed large numbers with differing cultural backgrounds (including health practices). And, finally, each country has its own public health history and system of administration, and each faces many problems peculiar to it alone.

In an over-all sense, trends in the levels of health within these nations have largely paralleled one another; yet there are major differences between them. Health levels in the U. S. and England, for instance, are relatively high. Thus the U. S. has the lowest mortality in the group from influenza-pneumonia<sup>2</sup> and is low in maternal deaths. On the other hand, these two countries also face special hazards to health accompanying their high levels of development. Mortality<sup>3</sup> is highest in the U. S. from heart disease, diabetes, and motor-vehicle accidents, while England exceeds the others in mortality from cancer, especially of the respiratory system, and other respiratory conditions.

Sweden, not as urban or industrial, has many pluses and few minuses, with the highest life expectancy, the lowest over-all mortality, and the lowest infant mortality among these countries. (For these and other health

1. For convenience, England and Wales are subsequently designated simply as England.

2. For statistical purposes, influenza and pneumonia are usually classified as a single major cause-of-death category.



measures, Sweden's outstanding record is approximately duplicated within the U. S. by Iowa and other West North Central states, where environmental and social conditions most nearly parallel those in Sweden.) In France, partly because of the two world wars, the level of public health has lagged. This country<sup>3</sup> has the highest mortality in the group from tuberculosis and among infants although it also has the lowest death rates from heart disease and cancer.

In 1901 the average expectation of life at birth in this selected group of countries hovered around the 50-year mark.<sup>3</sup> By 1930 vast improvements in general health conditions had increased the average for the group to about 60; by 1958 the average had risen still further, to about 70. As it had throughout, Sweden led the others with about 72.5 followed by England with about 71, and the U. S. with about 69.5. France was lowest, about 69.0.

The differentials in life expectancy between these countries are now narrower than formerly, and their average annual rates of gain are somewhat smaller. Further sizable increases in life expectancy today depend on breakthroughs against the complex cardiovascular-renal diseases, cancer, and accidents.

The trend of mortality decline in these countries has paralleled their gains in longevity. Here, too, the similarities between them far overshadow the differences. In 1900 the average of their mortality rates was somewhat over 17 per 1,000 population. Over the years these rates have declined steadily and with only minor fluctuation except for the world-wide influenza pandemic of 1918 and the two world wars. By 1930 their *average mortality had dropped to about 12, and in 1958 it was just over 7*. For the United States, all life expectancy or mortality rates prior to 1933 refer to the death registration states only. In 1900 these consisted of 10 states and the District of Columbia.

For 1901 and 1930, life expectancies in

some instances represent interpolations from existing data. For 1958, both life expectancies and mortality rates are projected estimates by Health Information Foundation from data of the United Nations and the various countries.

Sweden maintained its lead in low mortality throughout the entire period. The rates for England and U. S. followed one another closely and crossed each other a number of times. France, hardest hit in the two world wars, also lagged behind the others in the interwar period. After World War II, however, mortality in that country dropped into line with that of England and the U. S. By 1958 Sweden was still lowest at 6.3, while England followed with 7.2, France with 7.4 and the U. S. with 7.8. But mortality differentials between these countries today are far smaller than they used to be.

#### Mortality by age and sex

By age and sex, too, mortality trends were parallel, and current patterns resemble one another fairly closely. Uniformly for each, mortality decline has been greatest at the younger ages and least at the older. Thus, from around 1900 to 1957, mortality at ages 0-44 declined, on an average, by about 85 per cent, while at 45-64 the drop averaged about 50 per cent and at 65 and over, 30 per cent.

Current mortality in these nations is relatively high during infancy, but drops sharply at ages 1-24, ranging from 0.6 to 0.9 per 1,000. Subsequently it rises, and at 65 and over it ranges from 57.3 to 61.0.

Mortality differentials by sex have widened in parallel fashion. In 1900 male mortality rates exceeded female by an average for the group of about 15 per cent, but by 1957 this figure had risen to over 50. In each case the change was due, not to an increased mortality among males, but to a more rapid decrease among females. All age groups shared in the more rapid decrease in female mortality, but especially the main child-bearing ages (15-34) and mid-life (45-64). Finally, while mortality for males at ages 45-64 declined in each of these countries from 1900 to 1957,

3. For comparability, all mortality rates used in this article are age-adjusted to the U. S. population of 1940.



the decline was least in the U. S.

#### Childbirth and infancy

A major health achievement in these countries, especially since the mid-1930s, has been the reduction in maternal deaths. In 1957 the rate was lowest for Sweden, 3.6 per 10,000 live births, with 4.1 for the U. S., 4.8 for England, and 5.7 for France. However, the differential between these countries is minor compared to their common gains, and this despite substantial differences in practices relating to confinement.

Thus in 1955 the percentage of all confinements occurring in hospitals and other establishments, public or private, was 97.6 in Sweden and approximately 64 in England.<sup>4</sup> (The proportion in England has risen substantially within recent years.) The remainder (at home) were attended in England by a midwife or maternity nurse and in Sweden practically all by a midwife. In the United States during 1955, 94.4 per cent of all live births occurred in hospitals, and 96.9 per cent with a physician in attendance. At this writing, comparable data were unavailable for France.

In the protection of life during infancy, too, each country has made spectacular gains. In 1915 the average of their infant mortality rates—deaths of infants under one per 1,000 live births—exceeded 100. Sweden had by far the lowest rate, 76 per 1,000, followed by the U. S. with 100, England with 110, and France with 143.<sup>5</sup> In later years, rates dropped sharply, and by 1939 the average was about 50.

During World War II the infant mortality rate in France rose sharply, but by 1946 it dropped to prewar levels and resumed its “normal” downward trend. In England the infant mortality rate was affected much less violently, while the downward trend in the United States and Sweden was only slightly

interrupted by the war. In 1957 Sweden was still far ahead with 17.4 deaths per 1,000 live births, followed by England with 23.1, the U. S. with 26.4, and France with 33.7.

#### Deaths from communicable diseases

In each country, mortality decline has resulted primarily from the achievement of a large degree of control over the communicable diseases. For example, tuberculosis mortality declined over 90 per cent from 1925 to 1957<sup>6</sup> in the United States, England and Sweden.

In 1925 the recorded mortality from tuberculosis accounted for about 10 per cent of all deaths in these countries, but by 1957 it dropped to about 1 per cent. In France it still continued relatively high, at 3.0 per cent of all deaths. Sweden had the lowest mortality in 1957, 6.5 per 100,000 population, followed by the U. S., 7.2, England, 8.4, and France, 22.4.

Similarly, between 1925 and 1957, mortality from influenza-pneumonia declined about 80 per cent in the U. S., 65 per cent in England, and 45 per cent in Sweden. The U. S. rate was lowest in 1957, 28.3 deaths per 100,000 population, compared to 34.4 in Sweden, 42.0 in France, and 42.7 in England. (Actually, for each country 1957 was a high mortality year because of the Asian influenza epidemic.)

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6. Difficulties in international comparisons of cause of death, especially over time, arise from the substantial differences between countries in their patterns of medical diagnosis and in their procedures for certifying deaths and classifying them by cause. The same difficulties have also affected comparisons over time within a nation.

In this discussion international comparison of time-trends in cause of death is carried back only as far as 1925 for the U. S., England, and Sweden, and is omitted for France. In the latter country over one-third of all deaths in 1925 were classified as due to “senility without mention of psychosis, or ill-defined or unknown causes.” As a result, the rates for many major causes of death were artificially low. (Corresponding percentages in the other countries were: Sweden, 15; England, 6; and U. S., 3.) Also, for the same reasons even current statistics on cause of death in France must be interpreted with caution, since as late as 1957, 13 per cent of all deaths were recorded as due to “senility, etc.”

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4. World Health Organization, *Epidemiological and Vital Statistics Report*, 10,9, 1957.

5. Recorded infant mortality rates in France prior to 1949 may considerably understate the real rates because they exclude from both numerator and denominator the live-born infants dying before the registration of their births.



**Degenerative diseases and accidents**

As the general level of mortality in these countries has decreased, the cardiovascular-renal diseases<sup>7</sup>, cancer, and accidents have become increasingly prominent as causes of death. For example, cardiovascular-renal diseases today account for nearly one-half of all deaths<sup>8</sup> in these countries, and in the U. S. over half.

However, the rise in importance of these diseases has been due far less to a real<sup>9</sup> increase in the death rates than to the decline of the communicable diseases. But within the cardiovascular-renal category, while the rates for some conditions (vascular lesions, nephritis, etc.) have remained relatively stable or even declined, impressive increases have occurred in heart disease<sup>10</sup>—today the leading cause of death in these countries—and especially from its arteriosclerotic and degenerative forms, including coronary artery disease.

Heart disease today accounts for 38 per cent of all deaths in the U. S., 30 per cent in Sweden and England, and 16 per cent in France. The U. S. rate in 1957, 297 per 100,000, exceeded the comparable figure in

England by over one-third, in Sweden by over one-half, and was more than double that in France. In each country cardiovascular-renal mortality for females has either remained stable or declined, while for males, especially at ages 45-64, it has risen.

Cancer (malignant neoplasms) has also risen in importance as a cause of death. In 1925 cancer accounted for about 10 per cent of all deaths in the U. S., England, and Sweden, but by 1957 the percentages were 16 to 19. Again the actual rise in cancer mortality was less important than the decline in communicable diseases.<sup>11</sup>

In the U. S. and England the rise in cancer mortality is to a considerable extent the result of a spectacular increase in respiratory cancer. This increase in Sweden was far smaller. Today England has the highest mortality from cancer (all sites) in the group. England also exceeds the others in respiratory cancer mortality by a considerable margin, 31 per 100,000 in 1957 against 18 for the U. S., 15 for France, and 9 for Sweden.

Accidents have also become a prominent cause of death. Their toll as a percentage of all deaths ranges from 4 in England up to 7 in the U. S. Today the U. S. rate, 54 per 100,000 in 1957, is highest in the group. Our mortality from motor-vehicle accidents is about twice as high as England's and Sweden's, and exceeds France's by about one-third. The higher U. S. rate is not surprising, since our 391 motor vehicles per 1,000 population in 1957 was three or more times the number in others.<sup>12</sup>

In any case, the present U. S. rate represents a decline of about one-third since 1925, despite the large increase in motor vehicles per capita since then. Our nonmotor-vehicle rate has also dropped considerably, especially for accidents on the job and in public places.

11. Even this rise may have resulted in part from improvements in diagnostic and casefinding techniques, as well as from changes in the system for classifying causes of death.

12. Data are from: Automobile Manufacturers Association, *Automobile Facts and Figures*, Thirty-Eighth Edition, 1958, Detroit, Michigan.

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7. Diseases of the heart, blood vessels, and kidneys.

8. In France during 1957 only 30 per cent of all deaths were attributed to this category. However, under a more accurate classification system a large part of the 13 per cent attributed to "senility, etc.," might have been attributed to cardiovascular-renal, especially since they occurred mainly at the older ages.

9. Actually, these death rates have increased considerably, but much of the rise comes from the aging of populations and changes in the classification of deaths by cause.

10. Again, part of this increase may result merely from the discovery and application of newer medical knowledge and diagnostic techniques. Thus many deaths earlier ascribed to vascular lesions or nephritis and nephrosis are today attributed to heart disease because of newer knowledge about the role of the heart in initiating the sequence of events leading to death. Also, improved diagnostic techniques have led to the additional detection of heart disease and its certification as a cause of death where other chronic diseases are present.



**Special problems of each country**

Certain problems are particularly acute in each of these countries. England, for example, has unusually high death rates from certain respiratory conditions—notably respiratory cancer and bronchitis. From bronchitis its death rate in 1957 was 37 per 100,000, against comparable rates below 3 in the other countries.

In France, alcoholism has for some time been a major problem, and its death rates from cirrhosis of the liver are among the highest in the world. This disease accounted for about 23 deaths per 100,000 in 1957, compared with less than 12 in other countries. Sweden's suicide rate is highest: 17 per 100,000 in 1957 against 14 in France, 10 in England and the U. S.

In today's world, some advanced nations are "exporting" health in increasingly large quantity to the less advanced regions. The political and social consequences of this trend, and its possible repercussions in terms of world population, are being watched with intense interest by international agencies and informed observers generally. But also of interest is to see where, in health terms, the advanced nations go from here, and whether the rest of the world will ultimately be able to follow.

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Since the introduction of the antibiotics, Health Information Foundation points out, the over-all death rate from syphilis has dropped from 12 persons per 100,000 population in 1943 to 2.2 in 1958. Nevertheless, an estimated million persons in this country still have the disease.

Although the incidence of venereal disease is still high, 30 infants in this country died from congenital syphilis last year, while 3,460 would have died if the 1930 rate had continued.

Despite sharp drops in the incidence of venereal disease since the development of antibiotics, an estimated 60,000 cases of syphilis and 1,000,000 of gonorrhea are still acquired each year. "Complete elimination of these diseases," says Health Information Foundation, "is at this point far from achieved."

**Food Radioactivity Research Must Be Continued**

—Radioactivity in food now presents no dangers, but research in the field must continue, especially as the peacetime use of nuclear energy increases, according to a Cornell University researcher.

In a report prepared for the American Medical

Association's Council on Foods and Nutrition, appearing in the October 31 A.M.A. Journal, Cyril L. Comar, Ph.D., said environmental contamination now existing is due almost entirely to fall-out from nuclear weapons.

Eventually the contamination may be increased by such peace-time activities as mining of uranium and thorium ore and fuel processing; reactor installations in power plants, submarines, ships and aircraft, and radioisotopic applications in medicine, industry and agriculture.

The relative hazard of radioactive material is governed by several factors, Dr. Comar said. These include the amount released into the environment; the length of time the radioactivity lasts in certain materials; efficiency of transfer through the food chain to the human diet; the degree of absorption by the body, and the length of time the material is retained in the body.

According to these criteria, the radioisotopes from fall-out which are of the greatest concern are iodine, barium, strontium and cesium. Those of iodine and barium are relatively short-lived, while those of strontium and cesium retain their radioactivity for a long time.

Radioactive contaminants are transferred to man by specific pathways through the food chains, Dr. Comar said. For instance, barium-140 goes from the atmosphere to vegetation, to cattle, to milk, to man.

Strontium, cesium and iodine have slightly more complicated pathways, including soil and meat products.

The importance of the various pathways depends on many factors, such as the composition of the soil and the nature of plant cover. A heavy root mat will tend to trap fall-out strontium and delay its reaching the soil, while at the same time permitting absorption into the plant from the base of the stem.

The agricultural management of crops and livestock, which includes the plowing depth, fertilizer practice, and type of feeding employed, is another factor.

It appears that the present contamination of diets originates mainly from surface contamination rather than from the soil reservoir.

This soil reservoir will be an increasingly important source of contamination, even if nuclear tests are stopped, Dr. Comar said. The present contamination will spread into the ground and persist there. This is especially true of strontium and cesium, which retain their radioactivity for long periods.

Thus close checking of dietary levels of radioisotopes and research to understand their possible effects on man must be continued indefinitely, Dr. Comar concluded.

He is director of the laboratory of radiation biology in the department of physiology at New York State Veterinary College, Cornell University, Ithaca, N. Y.





## MEDICAL CENTER NEWS

### DR. CARMICHAEL NAMED ASSISTANT DEAN

Dr. Emmett B. Carmichael, chairman of the biochemistry department for many years, has been named assistant dean in both the Medical College and the School of Dentistry.



His appointment, effective last month, was announced jointly by Dr. Robert C. Berson, University vice-president for health affairs and dean of the Medical College, and Dr. Joseph F. Volker, dean of the School of Dentistry. In making the announcement, they said Dr. Carmichael's responsibilities will include coordination of special events, alumni relations, scheduling of visiting lecturers, and development of historical portions of the Medical Center Library.

For the remainder of the current academic year he will continue to direct the operation of the biochemistry department, which he has headed for thirty-two years, and therefore will assume his new duties gradually.

Educated at the University of Colorado (B. A., M. S.) and the University of Cincinnati (Ph. D.), Dr. Carmichael joined the staff of the University of Alabama Medical College in 1927 as assistant professor and head of biochemistry. He became associate professor in 1928 and professor in 1932. He had earlier served on the faculties at Colorado and Cincinnati.

Dr. Carmichael is author of more than 100 articles on experimental medicine, methods, and biography. He is especially noted as a scholar in the field of medical history.

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### NEW FILM ON UNIVERSITY NOW AVAILABLE

"Eleven O'clock in Alabama," a new film on the University and its services to the peo-

ple of the state, is now available for use by alumni, professional, and civic organizations and other groups who might wish to see it.

Made early this year under a special private donation to the University, the 32-minute color movie has to date been viewed chiefly by engineering alumni groups participating in the Greater University Development Program. It was shown here at the Medical Center during a recent faculty and staff meeting called by President Frank A. Rose.

One of the movie's highlights is an episode showing how a little girl with a congenital heart defect is given full life expectancy through open-heart surgery here. Portions of the movie were filmed in the Medical Center's cardiovascular surgical unit, the dental clinic, and other facilities.

Narrated by Mel Allen, well-known sportscaster and Alabama graduate, and filmed by Jerry Fairbanks Productions, Inc., of Hollywood, the movie also depicts University aid to Alabamians in the areas of missile development, public administration, and retail marketing.

The 16-millimeter film may be booked through Nicholas Bell of the University development office or Jefferson Bennett, assistant to the president, both at the main University campus in Tuscaloosa. Mr. Bell said that seven copies of the movie are available and it is hoped that requests can be filled within a few days, but that it would be well for any group that wants the film to book it as far in advance as possible.

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### NEW LEGISLATION TO BENEFIT PSYCHIATRY DEPARTMENT

Three important measures supporting work of the Medical Center psychiatry department were passed by the Alabama State Legislature during its last session.

These include an appropriation of \$50,000





**\$5000 GIFT**—Given by the Wyeth Laboratories of Philadelphia, checks totaling \$5000 were added to the funds of two Medical Center departments during November. Pediatrics and psychiatry each received half of the total. Dr. H. P. K. Agersborg, Jr. (left) of the Wyeth staff made the presentation to Dr. Kendrick Hare (center), professor and chairman of the pediatrics department, and Dr. James N. Sussex (right), professor and chairman of psychiatry. Looking on are Dr. Sarah F. Davis, associate professor of pediatrics, and Dr. Joseph F. Volker, dean of the School of Dentistry and director of research and graduate studies. The pharmaceutical firm annually awards grants totaling \$100,000 to be used in any way the recipients wish.

for operation of the new Psychiatric Clinic, now under construction; \$50,000 for increases in staff to take care of the department's expanded program; and \$100,000 to provide beds for indigent patients who need hospitalization for psychiatric treatment.

Dr. James N. Sussex, professor of psychiatry and chairman of the department, said these new facilities for inpatient and outpatient care and a larger staff will enable the department to offer increased opportunities for graduates in medicine to specialize in psychiatry as well as provide a more adequate training program in this area for medical and nursing students.

#### DR. SPIES NAMED PRESIDENT-ELECT OF SOUTHERN MEDICAL

New president-elect of the Southern Medical Association is Dr. Tom Spies, scientific

director of the nutrition clinic.

Elected during the Association's November meeting in Atlanta, Dr. Spies was also named recipient of the first Seale Harris award for achievement in the field of nutrition. The award was named for the late Dr. Seale Harris of Birmingham, a leader in the field of nutrition and metabolic diseases and professor emeritus of medicine here before his death a few years ago.

Dr. Spies is also professor and chairman of the department of nutrition and metabolism at Northwestern University Medical School, dividing his time between that post and the one here. He will succeed Dr. Edwin Hugh Lawson of New Orleans as SMA president in November 1960.

#### MEDICAL SCHOOLS EXPENDITURES

During the past decade medical schools in the United States have spent well over \$11½ billion on construction of all types of facilities and equipment. According to the Association of American Medical Colleges, federal funds accounted for less than one-third of the total amount. For each \$1 of federal funds expended, private, state, and university sources put \$3 1/3 into development of medical institutions.

#### DR. BARKER VISITS MARQUETTE UNIVERSITY

Dr. Samuel B. Barker, professor of pharmacology, visited the School of Medicine at Marquette University, Milwaukee, Wis., in late November as a guest lecturer and consultant.

One of the first research investigators to develop the protein-bound iodine technique for diagnosis of thyroid disease, Dr. Barker was invited by the Wisconsin school's committee on growth and cancer to stimulate interest in cancer and thyroid research.

During his three-day visit, the Alabamian consulted with the physiology department faculty, and gave one formal lecture to the medical student body. His topic was "What Is the Thyroid Hormone Doing?"





**NEW CHILDREN'S HOSPITAL**—Construction has just started on this four-story Children's Hospital building of reinforced concrete with shaded glass walls on the upper floors and brick masonry and glass with exposed structure of textured concrete on the lower floors. Designed by Lawrence S. Whitten, it is the third new facility now being built in the Medical Center. Work on the Psychiatric Clinic was begun in August, and the Evacuation Hospital Armory was started in September.

#### CHILDREN'S HOSPITAL-CLINIC NOW UNDER CONSTRUCTION

Construction on a new \$2,800,000 Children's Hospital and Outpatient Clinic in the Medical Center area was started in late November.

To be located in the block bordered by Sixth and Seventh Avenues and 16th and 17th Streets, the building will have space for 128 beds and facilities for medical and surgical care of young patients. It should be ready for occupancy by the middle of 1961.

The Children's Hospital of Birmingham, now at 712 South 30th Street, has been in operation for half a century. It is a non-profit, non-sectarian organization supported in part by the Community Chest. Indigent and semi-indigent service is available to children who need care and whose families cannot afford full cost of hospitalization.

Mrs. T. Felton Wimberly, Jr., is president of the Children's Hospital Board of Control. Dr. Harry C. Shirkey, formerly of Cincinnati, was appointed medical and administrative director of the hospital on January 1, and will also serve on the Medical Center faculty. Miss Zuma Elgin is Children's Hospital administrator.

Mrs. Wimberly said the hospital's board members, trustees, and staff hope to build a nurses' residence adjoining the hospital. In addition to an affiliation program in pediatric nursing, Children's Hospital offers intern and residency programs for physicians specializing in pediatrics.

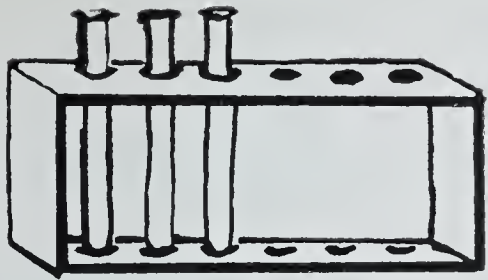
#### MORE DROPPING OUT

The percentage of medical students withdrawing from school during their freshman year increased from five and one-half per cent in 1954-55 to seven and eight-tenths per cent in 1957-58.

The common cold—our number one acute respiratory disease—is as puzzling as it is prevalent, with the cause still unknown in about 50% of cases, according to the current issue of *Patterns of Disease*, a publication prepared for and distributed to the medical profession by Parke, Davis & Company.

Many viral agents are incriminated in coldlike illness but it "is possible that a continuing search for the etiologic agent will identify one specific virus as the cause of many colds," the publication says. Specific immunity to reinfection recently has been demonstrated in human volunteers by direct challenge experiments.





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.

State Health Officer

### RECOMMENDATIONS OF THE ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS

The Association of State and Territorial Health Officers, whose membership is comprised of the chief executives of all State and Territorial Health Departments, meets annually in Washington. Concurrently with the annual meeting, a conference is held with the Surgeon General of the Public Health Service and the Chief of the Children's Bureau.

At this time, the Association makes formal recommendations to the Public Health Service and the Children's Bureau which reflect nationwide problems and trends in public health. Following are some of the major recommendations made during the 1959 meeting:

1. That the Public Health Service and the Children's Bureau create a committee to study and evaluate present concepts and underlying philosophy of local health administrative and financial structure; to make recommendations for the most efficient method of administration; and that various public health interests be represented on the committee such as state and local health officers and fiscal officers, the American Public Health Association, the Public Health Service, the Children's Bureau, and other organizations selected on the basis of their interest in and knowledge of the problem.

2. That the Children's Bureau make a careful study of the distribution and provision of service in regional heart centers with the objective of more equitably caring for deserving children in all states.

3. That the Public Health Service take the initiative with other Federal agencies, such as the Navy, which operate vessels anchoring in coastal harbors to increase studies to improve sanitary conditions which occur from the discharge of large volumes of untreated sewage near communities which have arranged for treatment of their own sewage; and that the interested agencies support these studies with necessary funds.

4. That the Public Health Service take the initiative in formulating suggested uniform policies and procedures for control of vessel pollution as related to public water supply, recreation and other important uses of lake and river waters.

5. That the Public Health Service investigate and establish:

a. Acceptable practices for the application of land herbicides to safeguard swimming and drinking water.

b. Acceptable practices for application of safe residual concentrations of aquatic herbicides applied in streams, rivers, ponds, lakes, reservoirs and impoundments of contiguous swamp areas where this water may be used for swimming or for human consumption.

c. Analytical methods for determining the concentration of each herbicide for which a concentration or standard is suggested.

6. That the Public Health Service sponsor a strong research program to develop more effective methods to treat sewage from population groups in the range of 50-500 persons.

7. That the Public Health Service and the Children's Bureau be commended for their continuing efforts in evaluating and studying the effectiveness and use of poliomyelitis vaccine and for their efforts in keeping state and territorial health officers informed of their findings; and that the studies be continued.



## DEPARTMENT OF HEALTH

8. That the Public Health Service and the Children's Bureau expand their efforts to develop recommendations on the control of hospital-acquired staphylococcal infections.

9. That the Association vigorously support the new community cancer demonstration project grant program and urge state health officers to assume leadership in the formulation of projects within the states.

10. That the Public Health Service, in cooperation with the Children's Bureau and other appropriate agencies, endeavor to standardize the method of reporting cancer cases to local and central cancer record registers so as to allow valid statistical comparison of basic data.

11. That, as a matter of public policy, recognition should be reaffirmed that official health agencies have a prominent role in developing homemaker services; and that the Public Health Service and Children's Bureau keep the states currently and continuously informed of developments in this field.

12. That the Public Health Service initiate a cooperative study with the Children's Bureau, the Office of Education, selected national voluntary health organizations and other appropriate professional organizations to determine what can be done to improve the quality of health textbooks used in elementary and secondary schools.

13. That, in recognition of the high importance of encouraging the development and improvement of the quality of research activities by state and local health departments, the Public Health Service and the Children's Bureau sponsor regional workshops on public health research.

14. That the Public Health Service, in cooperation with state and territorial health departments, should undertake large-scale long-term cooperative studies of atherosclerosis involving community populations, concerned with the true role of diet, including the effects of saturated and unsaturated fats, in order that comparable data may be collected.

15. That the Public Health Service and

state and territorial health officers promote occupational health services, preventively oriented, as a component of normal operating programs in all governmental agencies.

16. That the Public Health Service increase the assistance now being given to state, territorial and local health departments in developing alcoholism programs.

17. That the Public Health Service undertake to study the feasibility of providing institutes and seminars for public health personnel as a part of a continuing in-service training program that will give them the basic, current information they need for the effective educational programs in the field of radiation control.

18. That the fluoridation of public water supplies for the prevention of dental caries again be supported and encouraged.

19. That the Public Health Service amend its rules and regulations in order that Hill-Burton funds may be used to participate in the cost of the construction of state health administrative offices, and not limited to matching with costs of the laboratory.

20. That the Congress of the United States be petitioned to provide Federal legislation to be administered through the state hospital construction authority: (1) to assist the several states (a) to survey the need for new hospitals and related medical facilities in the larger population centers as well as the need for modernization and expansion or possible conversion of existing care facilities, (b) to develop a realistic plan reflecting population growth and shifts (a coordinated program of facilities and services which will assure high quality care at the lowest possible cost as well as adequate training and research programs with every effort being directed toward avoiding unnecessary duplication); (2) to assist local planning bodies in developing coordinated plans for medical care facilities and services in their communities or regional areas; and (3) to assist in needed construction, modernization, expansion or possible conversion on the basis of an established priority system.



DEPARTMENT OF HEALTH

BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

October 1959

Examinations for malaria .....	24
Examinations for diphtheria bacilli and Vincent's .....	155
Agglutination tests .....	512
Typhoid cultures (blood, feces and urine) ..	688
Brucella cultures .....	0
Examinations for intestinal parasites .....	3,015
Darkfield examinations .....	3
Serologic tests for syphilis (blood and spinal fluid) .....	24,378
Examinations for gonococci .....	1,711
Examinations for tubercle bacilli .....	3,435
Examinations for Negri bodies (smears & animal inoculations) .....	269
Water examinations .....	2,027
Milk and dairy products examinations .....	4,472
Miscellaneous examinations .....	983
Total	41,672

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BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1959

	Sept.	Oct.	*E. E. Oct.
Typhoid and paratyphoid .....	1	10	6
Undulant fever .....	0	1	2
Meningitis .....	1	4	6
Scarlet fever .....	12	69	64
Whooping cough .....	24	23	40
Diphtheria .....	5	6	47
Tetanus .....	2	1	4
Tuberculosis .....	161	172	201
Tularemia .....	0	1	1
Amebic dysentery .....	2	3	2
Malaria .....	0	0	0
Influenza .....	6	15	65
Smallpox .....	0	0	0
Measles .....	2	31	35
Poliomyelitis .....	50	21	27
Encephalitis .....	1	6	1
Chickenpox .....	1	4	9
Typhus fever .....	2	0	1
Mumps .....	15	31	25
Cancer .....	588	665	377
Pellagra .....	0	0	0
Pneumonia .....	80	143	114
Syphilis .....	120	143	190
Chancroid .....	4	6	5
Gonorrhea .....	266	274	349
Rabies—Human cases .....	0	0	0
Positive animal heads ..	14	19	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS AND COMPARATIVE DATA, AUGUST 1959

Live Births Deaths Causes of Death	Number Registered During August 1959			Rates* (Annual Basis)		
	Total	White	Non-White	1959	1958	1957
Live births .....	7683	4656	3027	28.0	28.6	27.3
Deaths .....	2355	1474	881	8.6	7.9	7.8
Fetal deaths .....	164	73	91	20.9	20.0	19.2
Infant deaths—						
under one month .....	153	70	83	19.9	24.9	27.1
under one year .....	209	89	120	27.2	31.1	33.5
Maternal deaths .....	6	2	4	7.6		5.4
Cause of Death						
Tuberculosis, 001-019 .....	20	11	9	7.3	8.5	11.2
Syphilis, 020-029 .....	3	1	2	1.1	2.6	1.1
Dysentery, 045-048 .....	3		3	1.1	0.7	0.4
Diphtheria, 055 .....	1		1	0.4		0.4
Whooping cough, 056 .....						
Meningococcal infections, 057 .....	2		2	0.7	0.4	
Poliomyelitis, 080, 081 .....						0.4
Measles, 085 .....						
Malignant neoplasms, 140-205 .....	342	249	93	124.9	102.2	102.5
Diabetes mellitus, 260 .....	28	21	7	10.2	11.8	7.8
Pellagra, 281 .....	1	1		0.4	0.4	0.4
Vascular lesions of central nervous system, 330-334 .....	339	217	122	123.8	116.6	110.3
Rheumatic fever, 400-402 .....	6	3	3	2.2	0.7	
Diseases of heart, 410-443 .....	770	517	253	281.1	259.7	245.6
Hypertension with heart disease, 440-443 ..	146	68	78	53.3	40.2	43.6
Diseases of the arteries, 450-456 .....	46	27	19	16.8	14.0	18.6
Influenza, 480-483 .....	3	2	1	1.1	1.1	0.7
Pneumonia, all forms, 490-493 .....	51	23	28	18.6	17.3	18.3
Bronchitis, 500-502 .....	5	4	1	1.8	0.4	1.5
Appendicitis, 550-553 .....	1	1		0.4	0.4	0.7
Intestinal obstruction and hernia, 560, 561, 570 .....	15	10	5	5.5	4.8	3.0
Gastro-enteritis and colitis, under 2, 571.0, 764 .....	12	1	11	4.4	5.2	4.5
Cirrhosis of liver, 581 .....	17	11	6	6.2	5.5	3.7
Diseases of pregnancy and childbirth, 640-689 .....	6	2	4	7.6		5.4
Congenital malformations, 750-759 .....	25	17	8	3.2	3.7	5.3
Immaturity at birth, 774-776 .....	42	21	21	5.5	9.2	9.0
Accidents, total 800-962 ..	172	111	61	62.8	52.4	64.1
Motor vehicle accidents, 810-835, 960 .....	70	55	15	25.6	20.6	32.8
All other defined causes	342	190	152	124.9	126.9	119.2
Ill defined and unknown causes, 780-793, 795 .....	103	34	69	37.6	25.1	26.5

Rates: birth and death—per 1,000 population  
infant deaths—per 1,000 live births  
fetal deaths—per 1,000 deliveries  
maternal deaths—per 10,000 deliveries  
deaths from specified causes—per 100,000 population



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## AMERICAN MEDICAL ASSOCIATION NEWS

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### UROLOGIST'S "KNOW-HOW" AIDS SURGICAL PATIENTS

A conscientious physician has come to the aid of the thousands of patients who suffer from the common and distressing condition of urinary retention after surgery.

He is Dr. Myron H. Nourse, a urologist, from Indianapolis.

Dr. Nourse studied the problem, backed up his own findings with the results of a questionnaire which he personally mailed to 151 members of the American Urological Association, and concluded it was time "to organize our thoughts on this subject."

Writing in the November 28 Journal of the American Medical Association, Dr. Nourse said that the problems associated with this condition, which so many surgical patients dread, exist largely "because of increased numbers of patients hospitalized and decreased numbers of trained professional help."

Patients unable to void after surgery, in spite of a full bladder, normal kidney function, and the absence of any organic obstruction, usually undergo catheterization. In this procedure a hollow rubber tube is used to drain urine from the bladder.

"Is this procedure really necessary?" Dr. Nourse asked. He said that while the answer must come only from the doctor in charge, his associate, or his assistant, consideration had to be given to many other complex factors, including the type of patient.

He urged doctors not to write out catheterization orders too freely, but to give more realistic personal attention and supervision to the patient.

"Leaving routine postoperative catheterization orders to the interpretation and discretion of the nursing service is a practice to be discouraged," Dr. Nourse said in the Journal article.

"Changing trends exist in hospitals today

with regard to patient care," he said. "Personal attention to patients' simple wants and needs is often lacking. It is thought to be somewhat 'old-fashioned' to request that a considerate attitude be displayed. For example, many patients could urinate spontaneously after operation if the urinal were present and within reach. Adequate personal preoperative and postoperative instruction to the patient lends confidence and mental tranquility of a degree far superior to that effected by tranquilizing agents."

Dr. Nourse said that the procedure of passing a rubber catheter is not difficult in experienced hands, but the operation should not be left routinely to orderlies and nurses.

"Real bedside nursing has also become 'old-fashioned' and is for practical purposes a 'lost art,' " he said, adding: "Many tasks, including catheterization, are relegated to nonprofessional nursing help and the new graduate soon finds she has much to learn before she can become a good nurse."

He said that catheterization is not without danger and that despite the most careful technique, infection of the bladder may follow. He cited this as another reason why catheterization should be in experienced hands.

Dr. Nourse said that preoperative and postoperative discussion between doctor and patient was, in his opinion, the best way to help the patient with this distressing problem. Such discussions and suggestions with 2,000 patients, he said, lowered the percentage of those who had to be catheterized from 18.3 to 1.7.

ANNUAL SESSION ADMIRAL SEMMES HOTEL MOBILE APRIL 21, 22 and 23
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# THE JOURNAL

*of*

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## FURTHER COMMENTS ON THE PSYCHIATRIC ASPECTS OF AGING

FRANK A. KAY, M. D.  
Birmingham, Alabama

The relatively young geriatric branch of psychiatry is standing today on the same ground where the infant science of psychiatry as a whole stood a hundred years ago when observation and treatment of insanity was first beginning to be practiced professionally in this country. At present, this new branch, which deals with the emotional problems of the aging, is also in the process of discarding mistaken concepts of what is most general and characteristic of its subjects, evolving new concepts of what is the best treatment for them, and extending its ultimate goals for their future.

As it was then, one of the foremost tasks today is to clear out the underbrush of past mistakes, and there is no better place to start than with a clarification of terms. It is now probably too late to rescue the word "senility" from the derogatory connotation of mental deterioration given to it in common usage by laymen, and to restore it to its primary meaning, which is merely the state of being old. This confusion of definition probably stemmed from the popular misconception that old age inevitably brings mental failure to some degree. So, for clarity's sake, some psychiatrists prefer to use "senescence" for the period of old age which is normal, healthy, and uncomplicated by marked physical or mental changes, and to reserve "senility" for describing that period when mental changes, with or without physical deterioration, have occurred.

Within this frame of reference, Dr. Mar-

jory Warren, English physician, has divided the mental changes found among old persons into six groups:<sup>1</sup> (1) Mental changes characteristic of senescence. These include memory failure for recent events, impaired powers of concentration, diminished mental reserve, and difficulty in adapting to new conditions. Symptoms may vary from minor to near senility, and they can be considered "normal" changes to be expected in normal old age only if viewed in relation to the character of the individual in former years, and in comparison to the behavior of a person of similar age and circumstance. All such changes may be aggravated by the impairment of a special sense (hearing, vision, etc.) or by an unsympathetic or unsuitable environment, and to these extents they are reversible. (2) Changes of a reversible or temporary nature caused by physical conditions. Commonest symptoms are disorientation, hallucinations, and failure to recognize individuals. (3) Changes of an irreversible or permanent nature, with brain deterioration and characteristic of senility. These include great impairment of, or even, complete loss of memory; disorientation of person and place; mental confusion; and development of antisocial habits in some instances. (4) Mental changes brought about by environmental changes. Retirement frequently evokes depression and apathy, and initiates mental deterioration; persons who live alone

1. Warren, Marjory, M. D.: Mental Confusion in Elderly Persons, *Geriatrics*, 1959, 14, No. 4, pp. 207-218.



may become untidy, antisocial and suspicious of offers of help; a feeling of being unwanted may give rise to aggression, increased interfering activity, and great depression and with it unnecessary dependence. In an unsympathetic atmosphere further anxiety and tension develop. (5) Mental deficiency. (6) Specific mental illness.

But more important than a clarified nomenclature has been the work done in correcting and evolving new concepts of the role emotional factors play in old age behavior. Recent studies have shown that we can't equate the functional capacities and productivity of an individual too closely with cellular changes in the brain, and that more than sixty per cent of psychiatric disorders in the old age period of life are functional and reversible, rather than, as we have previously thought, largely organic in origin and unsusceptible to treatment.<sup>2,3</sup>

Also, a series of interviews in Kansas City has disclosed the fact that attitudes toward aging are unrelated to chronologic age.<sup>4</sup> Almost consistently, in a group ranging from 40 years to 70 years, fear of aging sprang from fears of dependency, loss of health, and loss of income. If, as indicated by this survey, social patterns, personality patterns, and styles of aging vary independently of age, geriatric research will have to be reorientated toward discovering the social and psychologic processes which are relevant to aging, rather than relying on the chronologic scale.

It would appear that old age must be reckoned according to the ability of the individual to adapt to the process of aging and to the stresses and instinctive drives which accompany it. Selye has demonstrated, in

his general adaptation syndrome, that, whether stress results from physical or emotional factors, the same changes of structure and function occur in living organisms. We know that the mechanism which enables the body to withstand stress or shock is more delicately balanced in older people. But, where formerly we laid the development of a psychosis in an older person to the account of arteriosclerosis or progressive senile changes, we now recognize that usually it is rather because that person has undergone some stress. Thus, purposeful activity which serves to combat boredom—labeled the psychosocial disease of aging—takes on added importance as a powerful agent to prevent premature deterioration.

Increased understanding of the etiology of instinctive drives concerned with old age has led to more effective therapy in relieving the emotional tensions and, therefore, stresses of the involutional period. In the human being who lives long enough the course of instinctive drives runs a full cycle. The singleminded, basically self-centered, instinctive drive for self-preservation of childhood is confronted at puberty by the drive for race preservation, with resulting feelings of insecurity and tension. A more or less adequate adjustment between the instinctive forces of self-preservation and race preservation is maintained through middle life until the involutional period, when the drive for self-preservation reasserts itself. A person's emotional response to this adaptation indicates how successfully he is adjusting to the aging process.

In 1948 Gitelson listed six different patterns employed as defense mechanisms for adjustment to old age:<sup>5</sup> A decreased memory for recent events—a turning away from the painfulness of the present; a sharpening of memory for the past, especially for times when life was successful; a more self-assertive attitude as compensation for insecurity; a mild depression caused by isolation and the feeling of loneliness; introversions and

2. Wolff, Gunther E., M. D.: *Geriatric Mental Patients and How We Can Help Them*, *Geriatrics*, 1959, 14, No. 2, pp. 94-98.

3. Clow, Hollis E., M. D.: Panel Discussion on Some Psychologic and Psychiatric Problems of Old Age, *J. Amer. Geriatr. Soc.*, 1956, 4, No. 10, pp. 943-955.

4. Neugarten, Bernice L., and Garron, David C.: *Attitudes of Middle-Aged Persons Toward Growing Older*, *Geriatrics*, 1959, 14, pp. 21-24.

5. Wolff, Kurt, M. D.: Definition of the Geriatric Patient, *Geriatrics*, 1957, 12, No. 2, pp. 102-106.



increased sensitivity with querulous and paranoid attitudes; and a free floating anxiety caused by death among the same age group, especially when relatives are involved. It should be noted that the adoption of one or more mechanisms in adjusting to old age is but a re-using, or an accentuation, of conditioned responses utilized in earliest interpersonal relations and throughout life.

This formulation of Gitelson's put the dynamics of old age reactions in the same category as the dynamics of any other reaction and implied that psychotherapy had a place in the treatment of the aged.

Historically, the rationale for psychotherapy with the aged has run a strikingly parallel course to that for psychotherapy as a whole. The slow beginning of geriatric psychiatry was marked by the pessimism of Freud who stated that old people were too rigid to be educable and that the time consumed would place the end of the cure at a period when "nervous health" was no longer important. With increased interest in the subject, a wave of optimism was initiated by Abraham and Jelliffe about the accessibility of older people, and about how much could be accomplished with them through therapy. Viewed from present considered attitudes, much of this optimism seems unwarranted, although Jelliffe, himself, sounded the warning note that for many patients the neurosis or psychosis was a better solution of their life difficulties than any that an agent of reality could offer.<sup>6</sup>

Alexander and French pointed the way to a frankly supportive type of geriatric psychotherapy in which the patient's need for assistance and guidance is met by the reassuring, protective, permissive attitudes of the therapist. The present trend of thinking seems to be that the most therapeutic benefit for older patients comes from this good relationship with the psychiatrist, rather than from efforts at depth analysis or comprehensive insight therapy.

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6. Rechtschaffen, Allen, Ph.D.: Psychotherapy with Geriatric Patients: A Review of the Literature, *J. Geront.*, 1959, 14, No. 1, pp. 73-84.

One of the newer developments in treating emotional disorders in some elderly borderline or prepsychotic patients has been to recognize the need for involving the whole family in the treatment.<sup>7</sup> When the parent has faced his own dependency in a reversal of roles with his children and the children have accepted their responsibilities and learned to function as substitute parents to their own parents, some problems can be resolved.

This demonstration of the need for a reversal of roles in senescence, and repeated comparisons of the period to that of childhood, would seem to imply that old age is merely a regression to an infantile state. However, Dr. Pauline Rosenthal has evolved a dynamic interpretation of "second childhood" which provides a bridge between the newer concepts about aging and the aged, and the conditioned culture which makes no use of them.<sup>8</sup>

Only in infancy and in senescence is the ego so much at the mercy of dangers arising from environment, and in both states the ego is comparatively weak. For the aged, cultural attitudes, springing from folklore about old age, constitute a hostile environment. Our culture is geared to the young. An aging person, perhaps already burdened by fleshly ills or anxieties, and approaching death, is confronted by an unsympathetic society which consigns him to the waste pile, and dismisses old age contemptuously with the label "second childhood." Dr. Rosenthal points out that, while there is a pathologic childhood which can be compared with a senile psychosis which exposes unresolved conflicts of childhood and their characteristic defenses, there is, also, in an accepting environment, a second period of creativity in old people which can activate the capacity for learning, for pleasure, and for fulfillment, which are distinguishing marks of normal childhood.

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7. Sheps, Jack, M. D.: New Developments in Family Diagnosis in Emotional Disorders of Old Age, *Geriatrics*, 1959, 14, No. 7, pp. 443-449.

8. Rosenthal, Pauline, M. D.: Second Childhood, *Geriatrics*, 1955, 10, No. 7, pp. 306-310.



By the light of these newer concepts, society and the medical profession alike must reorient themselves to the phenomena of old age when setting their goals for the elderly. We must recognize that development of the mature emotions which ensure full enjoyment of senescence really begins at birth, and that the environmental needs of the aged are all lifelong desires to associate with people, to be creative and to contribute to one's environment, to retain family ties, security, individuality, a feeling of worth, and to achieve a frame of orientation, of which some religious philosophy is the most satisfactory.

We must respond to these needs on state, community and individual levels. It is gratifying to note what is already being done in the state toward that end. There will soon open in Birmingham a home for the aged, St. Martin's, operated by the Episcopal Foundation of Jefferson County, with these stated policies: To operate a residence especially designed for the elderly, creating an atmosphere of love and fellowship which will bring each resident a sense of belonging; to encourage each to maintain a maximum usefulness to himself and to society by providing opportunities for spiritual devotion, social contacts, recreation, educational, physical and occupational therapy; and to treat each resident as a child of God, allowing him a maximum of self-determination and privacy consistent with his need. In industry, the West Point Manufacturing Company, which operates largely in Alabama, provides its employees with a program designed to prepare them for retirement.

The medical profession bears a special responsibility in this work. It has been suggested that practitioners in geriatrics might benefit from the example set at the other end of the scale by pediatrics. The general practitioner might direct a systematic program of preparation for his patients, from adolescence to old age, by counselling and by supporting programs of expert advice on diet,

exercise, mental relaxation, social attitudes, economic planning and human relations.<sup>9</sup>

A consultant in preventive medicine<sup>10</sup> has observed that "Our goal for the elderly is to plan for them so well that they will be able to die peacefully, in sleep, at home, at a great old age, without leaving any regrets behind." Another<sup>11</sup> foresees a future when the knowledge, wisdom and skills developed in earlier years will be utilized by society, and creative living will become a way of life. Perhaps the greatest contribution of geriatric psychiatry will be its influence in obtaining these goals for our senior citizens.

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9. Leake, Chauncey D., Ph.D.: The Challenge of Geriatrics in Medical Education, Editorial, Geriatrics, 1959, 14, No. 5, pp. 337-339.

10. Bluestone, E. M., M. D.: Thoughts on the Geriatric Goal, Geriatrics, 1957, 12, No. 9, pp. 553-556.

11. Still, Joseph W., M. D.: Boredom—The Psychosocial Disease of Aging, Geriatrics, 1957, 12, No. 9, pp. 557-560.

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**All Surgeons Should Know How to Revive Heart**—All surgeons should be required to learn heart resuscitation before operating, a South Carolina doctor said recently.

Dr. William E. Bomar, Jr., of the Department of Surgery, Greenville General Hospital, pointed out that statistics show an apparent increase in the number of cases of cardiac arrest during surgery and said "adequate knowledge of the accepted methods of cardiac resuscitation should be a prerequisite for operating privileges, regardless of the specialties concerned."

Writing in the January 2 issue of the Journal of the American Medical Association, Dr. Bomar said a combination of factors undoubtedly plays some part in causing a patient's heart to stop during an operation.

"Many people blame the use of intravenously given barbiturates and muscle relaxants, others the use of too many different combinations of anesthetic gases," he said.

However, after analyzing 30 such cases, Dr. Bomar concluded that his study "while limited in scope, points to the lesser importance of anesthetic factors in production of cardiac arrest."

Only four cases involved healthy patients who showed no preoperative warning symptoms, he said, while, "in all other cases, serious preexisting diseases . . . were present."

Dr. Bomar said the proper preparation of the patient before an operation is of the utmost importance despite advances in anesthesia.



THE PATHOLOGY OF AGING

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Despite the fact that men have been naturally concerned for a long time with the limited life span with which the general population has to put up, and the occasional extreme extension which that life span undergoes, not a great deal is known about the process of aging. Charcot in the last century published a series of lectures on the diseases of old age and referred to similar medical treatises from the time when the first medical works were printed. Recent years have seen a renewal of interest in the aging problem since we are confronted directly with an imminent increase in our aging population.

The following charts from a recent Public Health Service publication will make this point better than words can. We are faced with a population in which the older individuals are becoming more numerous absolutely and relatively, and in this age group disability is increased and more medical care is required. Hence our need to know more about the aging process and the diseases of old age.

Age	Number of days per person per year	
	Restricted activity	Bed disability
All ages	20	8
Under 5	13	6
5-24	15	7
25-64	20	7
65 and over	47	16

Age	Physician visits per person per year	Annual hospital days per 100 persons
All ages	5.3	85.1
Under 5	6.4	47.9
5-24	4.2	46.3
25-64	5.4	103.7
65 and over	6.8	177.8

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Total Population of the United States, Including Armed Forces Overseas, by Age: 1930-50 and Estimates 1960-75, in 1,000's.

Year	All ages	Under 15	15-64	65 and over
1930	123,188	36,003	80,480	6,705
1940	132,122	32,942	90,150	9,031
1950	151,683	40,763	98,633	12,287
1960	180,126	56,367	107,980	15,779
1965	195,747	61,296	116,813	17,638
1970	213,810	67,172	127,089	19,549
1975	235,246	75,285	138,089	21,872

THE PATHOLOGY OF AGING

Much has been written about the pathology found in the aged but not very much about the pathology of the aging process itself. The cellular changes of aging have been summarized by Cameron (1956) as follows:

“General atrophy in old age includes (1) gradual tissue desiccation; (2) retardation in the rate of tissue oxidation, shown by lowering of the B.M.R.; (3) general retardation of cell division, capacity for cell growth and tissue repair; (4) cellular atrophy, degeneration, increased cell pigmentation and fatty infiltration; (5) gradual decrease in tissue elasticity and degenerative changes in elastic tissue; (6) decreased speed, strength and endurance of skeletal neuromuscular reactions; (7) decreased strength of skeletal muscles; (8) progressive degeneration and atrophy of the nervous system with impaired vision, hearing, attention, memory and mental endurance. Skeletal atrophy especially affects the jaw and femur. The brain shrinks, the arteries harden and the pulse rate increases. Collagen increases in the skeletal muscles.”

Bourne (1957) reviewed a great many studies on the aging of mammalian cells and takes the interesting (and hopeful) viewpoint that, although all cells age, the effects are in some instances related to the endocrine glands. A portion of the changes in the non-endocrine tissues may be related to the aging



changes in the endocrines, being at least temporarily reversible by appropriate hormonal treatment.

The morphological changes of aging are too well known to merit much discussion. They have been recently summarized as follows:

"Gross appearances of the aged individual are familiar and characteristic. The individual is frequently bent to some degree with a shortened trunk. The hair is thinned and delicate. The face shows a wrinkled, thinned, often parchment-like skin overlying thinned facial bones. The mouth is edentulous. The chest may be fixed near or at inspiration and appears barrel-shaped with the bones of the chest cage prominent. The abdominal muscles are lax. The external genitalia are small and atrophic. The body hair is scanty and delicate. The limb muscles are atrophic and flabby. The joints of the extremities appear knobby due to the muscular wasting and to the all too frequent arthritis.

"Examination of the viscera reveals smallness of the organs with a brown pigmentation diluting and altering the normal red color of the heart, liver, spleen and muscles. The body fat is deeper than normal in color, being a yellow-brown with mucous areas present in the fat overlying the heart muscle in the visceral pericardium. The arteries are more rigid than normal and less elastic. The shrinkage of the brain has been mentioned."

In an attempt to discover the diseases with which aged individuals die in Alabama we have reviewed our autopsy series. We will report the autopsy findings in 100 individuals dying at 75 or over in the University Hospital, the University of Alabama Medical Center. While there is obvious "selection" of material in hospital deaths as opposed to deaths outside the hospital, precise determination of pathology is possible only in autopsied cases since autopsies are done in sufficient frequency only on hospital populations. It is appreciated generally that death certificate statistics have shortcomings and errors which decrease their value as materials for analysis.

The age range was from 75 to 97. There were 31 females and 69 males. The data are tabulated for age, sex and race in Table I.

TABLE I  
CAUSE OF DEATH (TERMINAL DIAGNOSIS)

Cardiovascular accident and/or disease.....	37.5%
(Myocardial infarctions verified).....	(5.5%)
Lobular pneumonia.....	15.5%
Cerebrovascular accident and/or disease.....	9.0%
Complications of metastatic carcinoma.....	7.0%
Renal failure.....	6.5%
(Males).....	(5.5%)
(Females).....	(1.0%)
Pulmonary embolism.....	6.0%
Active tuberculosis.....	3.0%
Traumatic head injury.....	2.0%
Diabetes.....	1.5%
Lobar pneumonia.....	1.0%
Tetanus.....	1.0%
Blastomycosis.....	1.0%
"Occlusive vascular phenomena generalized".....	1.0%
Incarcerated hernia.....	1.0%
Cirrhosis.....	1.0%
Meningioma.....	1.0%
Multiple aneurysms.....	1.0%
Perforated appendix.....	1.0%
Lymphosarcoma.....	1.0%
Lymphoma.....	1.0%
Plasma cell myeloma.....	1.0%
	100.0%

These cases were selected from Autopsies 3200 to A-4830 of the University Hospital, covering the period from November 19, 1953 to January 15, 1958. The only criterion was the age of the patients. A total of 110 cases over 75 years of age was present in the autopsy series studied. Ten cases were excluded because of insufficient data, partial or restricted autopsy, etc.

The material was analyzed from two viewpoints: the first, the pathology encountered and the second, the cause of death. The results of these analyses are the substance of the next section of this paper.

*Atherosclerosis* was marked in 62% of the cases, moderate in 27% of the cases, and slight to mild or not described as present in 11%. Four (4) aneurysms of the abdominal aorta were found. Generalized arteriosclerosis was found in 11% of the cases.

*Brain pathology* was described in 30% of



the cases. Hemorrhage was present in 5%, infarction in 12%, thrombosis with occlusion in 4%, and severe atherosclerosis with encephalomalacia in 9%.

*Heart pathology* was common. Fifty-four % of the cases showed hypertrophy and/or dilatation. Twenty-four % showed valvular lesions of the heart and 27% showed old or recent myocardial infarctions. Pericardial pathology was found in 16% of the cases. Twenty-six % were described as having hypertensive heart disease and another 18% as having atherosclerotic heart disease.

*Prostatic hyperplasia* was found in 58% of the males. In a third of these it was associated with cystitis alone, in another third with pyelonephritis alone, and in one quarter with both cystitis and pyelonephritis. In only a few cases then was prostatic hyperplasia present without further urinary tract disease. Three cases showed cancer of the prostate.

*Pulmonary pathology* was frequent. Lobular pneumonia was found in 37% and lobar pneumonia in 1%. Old tuberculosis was described in 14% and active tuberculosis in 2%. Emboli and/or thrombi in the pulmonary arteries was found in 18%. Four cases of hydrothorax were seen, as well as one each of lipoid pneumonia, blastomycosis, primary bronchogenic cancer and metastatic carcinoma. Eight % of the cases showed bronchitis, and a further 3% had bronchitis and tracheitis. Tracheitis alone was present in 2% of cases.

*Gallbladder* disease was described as cholecystitis in 6 cases. Gallstones were present in 15 cases. Eight of these were females and seven were males. While the series is small, eight out of thirty one women is a much higher frequency than the seven out of sixty nine males—(females 8/31 vs. males 7/69).

*Esophageal pathology* was not uncommon. Varices were found in 4%, hernia in 2%, esophagitis in 6%, a diverticulum in one case, and a carcinoma in another.

*Stomach and duodenal pathology* described included eight ulcers and two neoplasms, one

of these being a lymphosarcoma and the other a benign polyp. Gastritis was present in eleven cases.

*Intestinal pathology* was frequent. There were four cases of ulcerative colitis. Neoplasms were present in ten cases, five of these carcinomas and five polyps. Diverticula were present in eleven cases. Eight cases of hernia were described. Acute abdominal conditions included a perforated appendix in two cases, two cases of intestinal infarction, two cases of volvulus, and four cases of non-specific intestinal inflammation.

*Kidney disease* was frequent. Forty four cases had arteriolar nephrosclerosis. Forty one cases had pyelonephritis. The pyelonephritis was found in nearly one third of all the women.

*Liver* changes were not infrequent. Five cases of cirrhosis were found. Sixteen cases had fatty change. Over one-third of the cases had chronic congestive liver changes of heart failure. Some degree of liver necrosis was present in nine cases.

*In summary*, the pathology found in these old persons gives objective evidence for the multiplicity of diseases in the aged. Rather than being surprised at their death, one tends more to be surprised at the diseases with which they lived. No mention has been made of the bone and joint changes since these were rarely alluded to in the autopsy records reviewed. We know from other evidences that the diseases of the rheumatic group are very common in the elderly. There is then a multiplicity of diseases as a characteristic of aging in the group of cases studied.

LeGros Clark has described the process of aging as that in which there is "increasing liability to die and often therefore to die from causes that might formerly have left them unaffected." This is true only to a limited degree since many of the disease conditions described above would have been fatal in any age group.

We have listed the causes of death in the



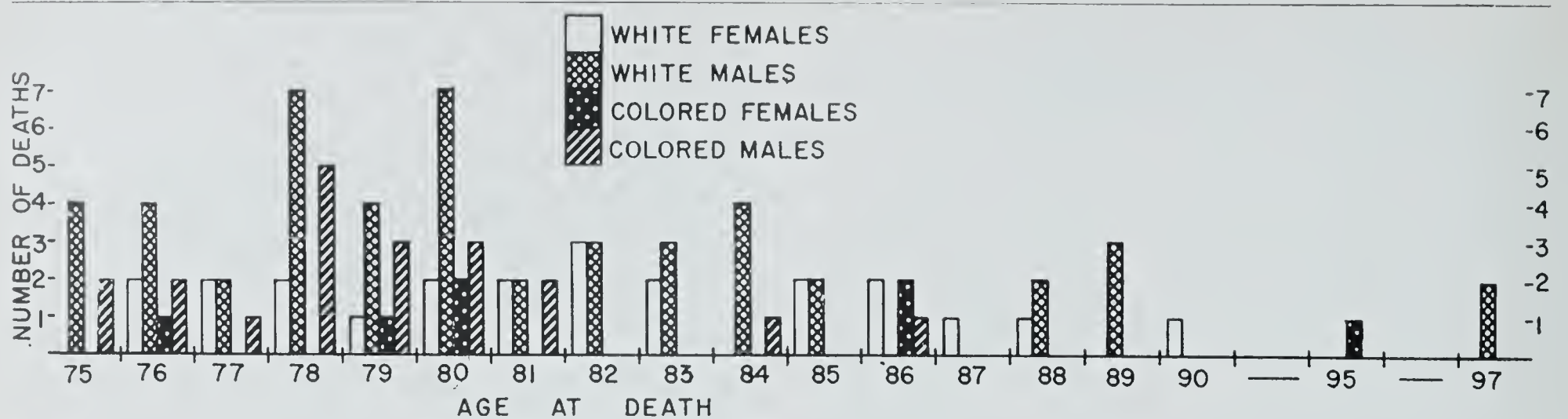


Fig. 1

subsequent chart (Figure 1). Where one half per cent is given, this is to suggest that two fatal conditions were present at one time. Admittedly such a listing is very imperfect since in a number of instances defining a "cause of death" must be an approxima-

tion. However, the listing of the causes of death makes a fitting finish for this review of the pathology found in 100 deaths in the University Hospital, the University of Alabama Medical Center, the individuals being seventy five years or older.

## SOME MEDICAL PROBLEMS IN AN AGING POPULATION

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*Introduction.* In our Western culture the problems created by the steady rise in life expectancy are perhaps second in importance only to those relating to the uses of nuclear energy. Even the medical aspects alone are so broad that the discussion to follow will necessarily mention only a few, and will consider these as examples.

Until comparatively recently, no clear distinction had been drawn between those diseases which are mainly the result of atheromatous changes in major blood vessels, and which occur commonly in older persons, and those disorders which are to be considered as an essentially physiologic effect of aging, in the sense that they tend to occur to some degree in most older persons. Since there is increasing evidence that atheromatous disease may be preventable, while as yet there is no evidence whatever justifying optimism concerning the prevention of what we might call "physiologic aging," the distinction between these two processes, which often occur in the same organs of the same patient, begins to assume practical importance. Such distinction as can now be made is largely the outgrowth of the concepts and

publications of William Dock. He has repeatedly emphasized that the leaves on the trees do not become brown and fall because of arteriosclerosis. He likewise has pointed out that the wrinkled face, the white hair, and the baldness so commonly observed in elderly males are not related to local arterial disease but are to be considered a part of physiologic involution.

We may define "physiologic aging," then, as a change in an area of the body which tends to occur in some degree in all elderly persons of a given sex, and consider the pathologic processes of aging as those which are frequent in older subjects but are in no sense inevitable. The latter are in most instances actually the result of vascular disease.

*The Arteries.* A distinction here should be drawn between that type of arterial disease which is characterized by fibrosis, dilatation, and, frequently, by medical calcification (Monckberg's sclerosis), and which does not narrow the lumen of the affected arteries, and those alterations which are secondary to intimal atheromatosis. The available, although admittedly incomplete, evidence of-



fers strong hope that the latter may be preventable but, as mentioned above, we have as yet no evidence that the more subtle processes of what is here called "physiologic aging" can be prevented.

*Systolic and Diastolic Hypertension.* The normal and natural increase in rigidity of the large arteries in older subjects produces a rise in systolic blood pressure. So long as the diastolic pressure remains entirely normal, this systolic rise carries relatively little hazard and should not be looked upon as disease. The importance of this concept, in relation to the granting or withholding of life insurance to older persons who desire it, requires no elaboration.

On the other hand, the rise in diastolic pressure which, while less common, is still frequently observed in older subjects, is a different matter. We do not know, in most instances, the exact mechanism of this so-called "essential" hypertension. Even so, we do know that the mortality in persons who display it is distinctly higher than that in comparable age groups with normal diastolic pressures.

*The Heart.* Here again, there are two different and probably entirely independent processes, which are often confused because they so frequently occur in the same patient. One of these is atheroma of the coronary arteries. In a large fraction of individuals with this disorder symptoms never occur, either because the arteries are roughened but not narrowed and the individual is fortunate enough to develop no clots in them, or because such narrowing as does occur is followed by complete compensation in terms of widened collaterals. Unfortunately, a large fraction, and probably the majority of persons with significant coronary atheroma, do develop one or more of the four fearsome complications: angina pectoris, myocardial infarction, sudden death, or congestive heart failure.

The presence of ischemic pain is the hallmark of coronary artery disease. Electrocardiographic changes, although present in a large fraction of such patients, are far less reliable as an index. A host of disorders may

lead to T-wave changes, mimicking those frequently observed in patients with coronary disease; and certain innocent processes, such as old healed scars due to cardiac contusion from accidents, may lead to marked alterations in the QRS complex. Only occasionally will the electrocardiogram be a reliable tool in the diagnosis of ischemic heart disease unless it is considered in the context of the clinical picture which, when properly interpreted, is usually the more delicate guide.

At autopsy one occasionally sees an entirely different picture. This occurs in elderly subjects who, having developed progressive dyspnea on exertion, then shortness of breath at rest, and, finally, anasarca, eventually succumb to what is too often mislabeled as "arteriosclerotic heart disease." To the surprise of the clinician, the pathologist may find a heart which displays only hypertrophy and dilatation, with minimal atheromatous deposits in the coronary arteries, no narrowing of their lumens, and absent or few patchy microscopic fibrotic scars. This is the picture which has been described by William Dock under the name "presbycardia." When, as is often the case, one has students who are allergic to names of Greek or Latin origin, the term "senile heart disease" is perhaps simpler and equally descriptive. Such hearts represent the state of a myocardium which is simply worn out because of too many birthdays. It is highly likely that this occurs in some degree in all so-called "normal" elderly persons. Hence the senile heart must be considered as the involutionary and physiologic aspect of aging in contradistinction to the heart with clear clinical and pathologic evidence of ischemia, which is a manifestation of a pathologic process. Unfortunately, the widespread and inaccurate usage of the term "arteriosclerotic heart disease" has tended to prevent a clear concept of the frequency and significance of the "birthday" heart.

Admittedly, the example cited above of an elderly person with clinical manifestations of well-marked congestive failure, who never had hypertension during life and who at autopsy exhibits only dilatation and hypertrophy, is relatively rare. Much more com-



mon is the situation in which a burden such as a relatively slight valvular deformity, thyrotoxicosis, or a mild degree of hypertension leads to heart failure in an older subject who, had he been twenty years younger, would have tolerated the same burden with no symptoms whatever. Thus the senile heart is a relatively uncommon cause *per se* of clinical manifestations, but is a common secondary cause of congestive heart failure and death.

The heart of a dog attached to the lungs but removed otherwise from the body (the heart-lung preparation of Starling) beats vigorously at first. After some hours the beat becomes more feeble and a load, in terms of elevation of the venous reservoir or of the peripheral resistance which was readily tolerated at the beginning of the experiment, is sufficient to cause overdistention and rapid death of the preparation. Thus it would appear that within a few hours the heart outside of the body undergoes certain subtle and, as yet unknown, biochemical changes which are similar to and possibly identical with those occurring in the body during a period of many decades.

*The Lungs.* The physiologic processes of aging are not limited to the heart. In the case of the lungs there is a superficial resemblance between the obstructive bronchitic emphysema of middle-aged persons, which frequently terminates in right-sided heart failure and death (*cor pulmonale*), and the atrophic or senile emphysema of the aging subject. The latter disorder, which is a wearing out of elastic tissue and appears to be analogous to changes occurring in a rubber band when it is stretched and released many hundreds of times, rarely causes serious symptoms unless complicated by infections, a senile myocardium or some other condition.

*Other Organs.* Most elderly patients with diabetes display, in the pancreatic islets, little or no structural change detectable by the usual methods. It is still uncertain whether one should regard diabetes in such subjects as representing biochemical aging. The same uncertainty applies to the atrophy of the

gastric mucosa, with the subsequent anacidity which is so common in healthy elderly persons. To what extent this physiologic aging predisposes to such undoubtedly pathologic processes as carcinoma of the stomach and pernicious anemia remains to be elucidated.

There are few persons who at age 70 are capable of lifting as great a weight as could have been easily raised at age 30. These are "birthday" muscles, but should not be considered diseased muscles.

*The Brain.* The chief purpose in citing the foregoing illustrations of the desirability of distinguishing the physiologic from the frequently concurrent pathologic disorders of older persons has been to afford illustrations which are applicable to the brain. Our ideas concerning the wisdom of old age were developed during previous centuries when youth ended and economic productivity started in the teens, when people were considered mature at 30, old and wise at 40, and were usually dead at 50. Our thinking about the brain of older people is still conditioned by such a saying as "Young men think old men are fools, but old men know young men are fools," and by Francis Bacon's statement that "Young men are fitter to invent than to judge." These proverbs are no longer true when our life expectancy is 70, when many are beyond 80, and when persons at 40 are considered to be still young.

A few fortunate individuals retain full mental powers into the ninth decade and even beyond, but this is not true of most. Whether the exceptional persons remain useful and productive because cerebral aging is slow, or whether they age slowly because they are still productive and useful is uncertain. It is at least possible that there is some truth in both points of view. Anyone who has watched the rapid withering of mental powers in persons who, recently vigorous, have retired to nothing tends to wonder which is cause and which is effect.

In the brain, as in the heart, there are two processes which often proceed concurrently but which may develop entirely separately.



One of these is the focal vascular disease which produces severe physical defects such as hemiplegia, and which is often accompanied by little or no mental impairment unless certain specific integrative areas are involved. The other process is the diffuse cerebral degeneration or atrophy which is probably unrelated to cerebral arteriosclerosis. This leads to impairment of personality and judgment. Such a process may begin before 50, or may be still absent during the ninth decade. Among the early signs are the tendency to disapprove of every foible of the next generation, the unwillingness to receive new ideas, and the preoccupation with minutiae at the expense of other matters. Frequently, and contrary to the widely held view, the tragic impairment of judgment proceeds more rapidly than the less important defect of memory. The common assumption that cerebral arteriosclerosis is responsible for the diffuse degeneration and atrophy encountered at necropsy in the brains of such persons is without justification.

Methods for detection of these subtle alterations in personality and judgment, while they are still in the early stage, are lacking at present. The economic value to large corporations of the development of such methods is obvious. One wonders whether, in addition to the increasing tendency of such organizations to provide periodic health examinations for key executive personnel, the support of research aimed at developing new procedures for detecting these changes at an early stage might not represent an excellent long-range investment.

This pseudophilosophic discussion has practical aims. If we of the medical profession are to serve an aging population to the best of our abilities, we need to pursue several aims: The first is to be concerned with the social and economic implications of our scientific advances. The second is to learn more about those disorders of older persons which are the result of pathologic structural change and are usually due to narrowed blood vessels. Such disorders can, with present knowl-

edge, be delayed and perhaps may soon be entirely preventable. Thirdly, we must develop clear conceptions of those processes which in our present dependence upon morphology rather than chemical pathology must be regarded as physiologic in the sense that they tend to affect all older persons, although at widely different ages and in markedly varying degrees. One hopes that the time will come when, in addition to more individualized rules concerning the retirement age, better planning toward usefulness and happiness after formal retirement, we as physicians may be able to play our role in truly enabling the elderly person to say

"The best is yet to be,  
The last of life, for which the first was  
made."

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The rapid progress made by medical research against viral diseases over the past decade is described in the current issue of *Patterns of Disease*, a publication prepared for and distributed to the medical profession by Parke, Davis & Company.

In 1948, according to *Patterns*, some 60 viruses were known to be associated with infections in man—two-thirds of them being transmitted by insects and infected animals, with man as only the secondary host. By 1958, more than 90 human viruses had been recognized and studied in the laboratory. "New laboratory techniques have opened up a Pandora's Box of viral agents, and at present several hundred apparently new viruses isolated in world-wide laboratories await classification."

However, still looming as a major puzzle for research is "how to match the virus to the disease," *Patterns* points out. "Apparently, each of certain types of viruses can produce several distinct illnesses," *Patterns* reports. "On the other hand, one disease can be caused by several viruses of different types." Simultaneous infections may be caused by several viruses, particularly in infants.

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What does the future hold for the patient with rheumatic fever? In most cases, a return to completely normal living, according to *Patterns of Disease*. In one study cited, nearly two out of three patients with the illness endured no physical restrictions whatsoever.

"When heart damage exists," the report says, "the patient should be encouraged to engage in activities that do not overtax his physical capacity." But *Patterns* warns against overprotection and unnecessary restrictions of a patient's physical activities. Rather than helping a person on the road to normalcy, such over-attentions "may result in development of cardiac neuroses by patients."



## RETIREMENT AND VOLUNTARY HEALTH INSURANCE

RHODES JOHNSTON, M. D.

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Is retirement a problem, and what medical implications does it have? Retirement for some seems to be quite a problem. First, there is the reduced income, and, second, there are the lost social contact and purpose for which many have no substitute. The result is idleness and deterioration of mind and body. As someone has aptly stated, "What one does not use he loses." In a recent survey it was shown that retirement was less well tolerated by the members of the laboring class than by the owner-management class; however, it was greatly influenced by the sort of person the individual was and had been. The worker who took great pleasure and pride in his work did not look forward to retirement but usually was able to channel his interest into other things, but the worker who worked only for financial income usually did very poorly with his added leisure.

Retirement should be differently designed on at least two occupational levels. One program should meet the needs of upper level occupational groups, who seem to have relatively favorable attitudes and plans for their old age but who may need the opportunity to reinterpret and assimilate their knowledge; and a second program should be designed for the manual worker, who, although he may have favorable abstract concepts of retirement and old age, cannot find within these abstractions the promise of a meaningful and well-rounded life for himself.

The quest and goal of labor are to win security, comfort, rest, freedom from worry, freedom from hard work, and freedom from struggle. And yet, the irony of it is that when a person finally and completely achieves such a goal he is through and he might as well be dead. The essence of life is its struggle, and, as Robert Louis Stevenson said, "To travel hopefully is better than to arrive."

The old saying that "with retirement one can look to an early grave" has not been

statistically proven, yet has some validity. Another interesting aspect of retirement is that in situations where there was an optional retirement age over half the individuals took retirement early even though they received smaller pensions.

Of course, productivity cannot be assayed at a chronological age and is an individual characteristic. It would seem that industry could have an optional retirement plan between 65 and 70 for those qualified both physically and mentally. It is difficult to work out such a plan, for to be retired at a purely productivity level would be a tremendous psychic blow to the individual so retired at an early age. However, with people living longer and staying healthier, the retirement age must become more flexible.

Many large companies have consulting departments which help to give their retired workers financial guidance, job counseling, and placement. Such counseling has proved very helpful to many.

What is the physician's role? Many middle-aged and older job seekers are denied employment as a direct or indirect result of the doctor's statements or judgments. The doctor should carefully weigh the individual's capacities and consider the minimum physical requirements of the job. He should also combat the prejudice and discrimination that exist concerning the productivity and performance of the older worker. He should be familiar with the existing services and programs designed to enable older persons to find employment. He should help his older patients to prepare realistically for retirement.

The physician in private practice can make some deductions about the extent to which a worker depends on his work long before his prospective retirement. If he recognizes a need for greater breadth of interest and activity and for planning, he can counsel the patient accordingly and possibly help him to make the indicated adjustments.



The doctor can advise his patients that financial planning should start many years prior to retirement, that he should own his home and be free from debt, and establish a separate budget for retirement. He should point out that good health is all important and should begin with good health habits early. Effective planning for retirement must be a joint venture of husband and wife. Goals must be flexible and realistic—adapted to personal and family needs and to a changing economy.

Human progress is always slow—always struggling to arrive. First, a period of development and exchange of ideas, second, the ideas are experimentally tested, third, one or more of the successful experiments are adopted on a large scale, and, finally, there is the general acceptance of a successful pattern with minor variations.

As far as the pattern of retirement of older workers is concerned we are still largely in the first and second stages. I am confident that we have the ingenuity to solve this as yet unsolved and difficult problem. There cannot be one simple easy answer and a variety of devices must be employed. But American intelligence and resourcefulness have not declined with time.

Voluntary health insurance now covers about 39% of persons in this country aged 65 and over. Only 26% were covered in 1952—certainly an encouraging trend. Health insurance is generally obtained through group plans at the worker's place of employment. Average cost is \$4.00 per month. More widespread enrollment is still needed, however. The older group is all too casual about preparations to meet its almost inevitable sickness costs. Only 3% of the aged who have tried to get health insurance have been turned down. Twenty five per cent of those over 65, or 50,000, are now covered by Blue Cross-Blue Shield in Alabama.

On the credit side, persons approaching 65 are today receiving increasing opportunities to extend coverage beyond retirement age. Efforts are being made to keep down the costs of treating the aged through such methods

as home-care programs, and many doctors will treat aged persons with low incomes at reduced fees.

Blue Cross of Alabama has begun a pilot plan for insuring the aged featuring the use of home care—that is, the Visiting Nurse Association. The main objective is to decrease length of hospital stay. The over-all objective will be to benefit the patient subscriber medically and economically. The plan is designed toward an over-all reduction in the cost of hospital and medical care without sacrifice of quality of the service to the patient.

At present, Blue Cross and Blue Shield are available to persons up to the age of 70 and subscribers are not dropped after reaching this age. During the past year Blue Cross-Blue Shield of Alabama moved (1) to upgrade health coverage for its members, and (2) to offer coverage to senior citizens up to 70 years. They are now offering their comprehensive coverage—the \$25.00 deductible contract—to individual applicants up to age 70. Already more than 50,000 persons 65 years and older have Blue Cross-Blue Shield coverage which they obtained while employed in a group, and 10,000 more have an individual contract. The cost for an unmarried man up to 70 years of age is \$3.00 per month. Mutual of Omaha offers a policy at any age for \$8.50 per month per person with fair coverage.

It must be remembered that in Alabama the largest group of persons over the age of 65 is in an economic bracket which cannot afford any voluntary health insurance at the present rates. It would seem that the prevalent trend toward total medical insurance should be reversed so that the cost could be lower. This could be accomplished by use of more deductible and catastrophe clauses in policies. The more benefits or coverage a health insurance policy has the greater the tendency for abuse, and consequently the higher the cost. Another grave danger in the trend of total coverage for medical expenses is the use of health insurance and old age benefits as a political football.



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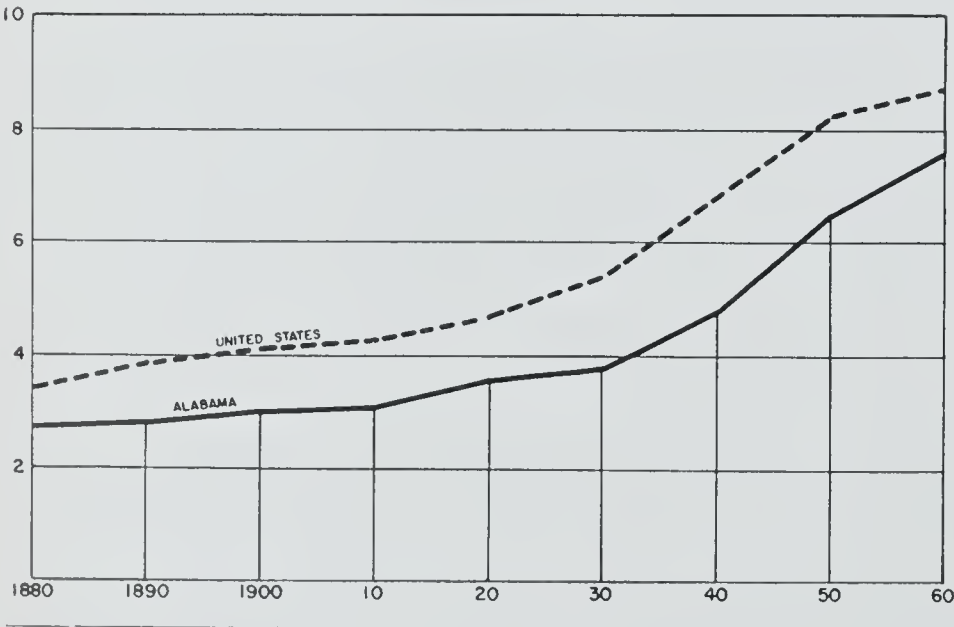
PUBLIC HEALTH PROGRAMS FOR THE AGING

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Public health in Alabama is changing to meet the needs of an aging population. One factor in the change is a shift in the causes of death and disability. From 1900 to 1950 the population of Alabama in the age group 65 and over increased 375 per cent. The total population increased only 70 per cent. This change in composition of the population appears to be a continuing trend. At the present time, 7.6 per cent of the State's total population is 65 years old or older.

A recent study reveals that in 1956 diseases of the heart and vascular system caused two-thirds of all deaths in persons over 65. The second leading cause of death was cancer, which caused 12.6 per cent of the deaths in this group. Third leading cause was acci-

PERCENTAGE OF TOTAL POPULATION 65 YEARS AND OVER



dents which accounted for 2.8 per cent. Deaths from all other causes comprised only 17.8 per cent of the total. Chronic diseases, then, account for a majority of deaths of persons over 65.

Current reports of the State Department of Pensions and Security show that 100,178

POPULATION 65 YEARS AND OVER		
United States		
Year		Per Cent
1880	-----	3.4
1890	-----	3.9
1900	-----	4.1
1910	-----	4.3
1920	-----	4.7
1930	-----	5.4
1940	-----	6.8
1950	-----	8.2
1960	-----	8.7
Alabama		
1880	-----	2.7
1890	-----	2.8
1900	-----	3.0
1910	-----	3.1
1920	-----	3.6
1930	-----	3.8
1940	-----	4.8
1950	-----	6.5
1960	-----	7.6

persons in the subject age group are receiving public assistance. This is about 41 per cent of the State's 65 and over population. The large number of older persons receiving public assistance is materially increased by unexpected illness and hospitalization since many older persons who have made adequate provisions for themselves in time of health become medically indigent when the unusual occurs. This is a problem of constantly increasing scope to a population which is living longer, which is experiencing more long-term illness which must be paid for at ever-higher rates, and which is trying to live on fixed incomes in a period of progressive devaluation of the dollar.

These are some of the considerations which led the State Department of Public Health



two years ago to develop a plan to strengthen its program in chronic diseases and health of the aged. Among the purposes of the program are the following: (1) to initiate a statewide program aimed at the early detection and prevention of chronic disease, (2) to study the needs of the State for the control of chronic disease and the health of the aged, (3) to work toward improvement in the quality and quantity of care rendered in nursing homes and related facilities throughout the State, (4) to encourage the utilization of local facilities and health personnel to improve or increase the amount and quality of preventive and diagnostic services in chronic diseases, (5) to promote and conduct studies and demonstrations in the chronic disease field on a pilot project basis, (6) to recruit and train personnel for programs relating to chronic disease control and health of the aged, and train presently employed health personnel, and (7) to prepare and distribute informational and educational materials to meet this specific need.

To date, major efforts in this program have been concentrated on improvement of nursing homes. Through the services of a clinical nurse consultant and a nutritionist consultant, this effort has been directed toward improving personal care offered in nursing homes. Their services are available on an individual or group basis at the request of the nursing home administrators.

These consultants have worked closely with staff members of the State Department of Public Health's Division of Hospital Planning who carry out the licensure program for nursing homes. This program has been in operation since 1950. When the State Board of Health was given authority to prescribe and enforce standards governing nursing homes, the program was conceived as an opportunity to help operators improve their facilities rather than as a punitive program. Having been administered in this spirit, the program has met with considerable success, and many nursing homes had complied with the current rules and regulations by November 1959, the deadline for such compliance.

The need for *more* nursing homes has also

been a matter of concern to the Health Department. There are now 77 such facilities with approximately 2,458 beds, 20% of which are skilled nursing homes. It is estimated that we need about 4,000 more nursing home beds. For several years there was little progress in this area. Since 1954, however, Hill-Burton funds have been available for the construction of nursing homes and chronic disease hospitals. Two nursing homes have already been completed under the Hill-Burton program, two are under construction, two have been approved, and applications are on file for eight. Three chronic disease hospitals have been completed, one is under construction, one has been approved, and applications for three are on file. Thus, it appears that the Hill-Burton program may be of considerable aid in alleviating the shortage of nursing home beds.

As part of the program in chronic diseases and aging, nursing homes in Jefferson County are being served through the local health department. Here, public health nurses, a nutritionist and sanitarians are available to give instruction in nursing care, to give instruction in the selection and preparation of food, and to offer suggestions and consultation in environmental sanitation and, generally, to promote better operation and a broader understanding of services available through the county health department.

A pilot study chronic disease program operated by the Jefferson County Health Department is beginning its third year of operation. Its principal aim is to conduct a case finding program in chronic disease and disability. Diagnostic services, supervision, observation and care, and a home nursing and nursing home service are provided. Only persons who are medically indigent are served in this program. Among its specific objectives are (1) to determine how a health department chronic disease program can be integrated with hospital, out-patient, nursing home and home care of the chronically ill to the best advantage of the community; to conduct research on administrative procedure, (2) to define more clearly the physical and mental problems of the chronically



ill; to conduct medical research, and (3) to work closely with other agencies in developing added services while avoiding duplication of services now being performed.

In a study made this year of the services of this clinic, information was obtained about 211 patients. Since there is no age limit, the range was from 16 through 89 years. Seventy-one per cent were over 50, and 55 per cent over 60 years of age. Referrals to this clinic are primarily from public health nurses. Generally, this was the only available facility for such care. Experience has shown that as a referral clinic this is an important service in the community and needs not only continuation but also expansion.

Only persons who are acutely ill or injured and who are unable to pay the cost of necessary hospitalization are eligible to receive aid in the State's Hospital Service for the Indigent program which is presently entering its third year of operation. The experience of other states in similar programs has shown that one third of persons served are over 50 and one fifth over 65 years of age. The first year's experience in Alabama revealed an age range of from one to 92 years with 23 per cent over 65. The selection of recipients is by a county admissions committee. The State Health Department administers the funds which are paid directly to the hospital rendering the service. Physicians receive no public funds for their services to these individuals.

Physicians also donate their services to the medically indigent in the cancer control program of the Health Department. Through the Bureau of Preventable Diseases the medically indigent aged cancer victim can receive x-ray, radium and/or surgery at one of the six state cancer clinics. The patient must be ambulatory and have a reasonably correctable cancer if he is to be accepted for this service. Since funds for this program are limited, persons in the incurable stages of the disease or with certain types of cancer are not eligible.

Elderly heart disease patients may be referred to the Health Department's Heart Clinic for diagnosis. However, surgery and

hospitalization must be paid from other funds such as Vocational Rehabilitation and Hospital Service for the Indigent. Any medically indigent person, regardless of age, who needs penicillin prophylactic therapy for rheumatic fever or rheumatic heart disease may receive this medication through a county health department or directly from the Bureau of Preventable Diseases, State Health Department.

The Division of Mental Hygiene offers mental health services to the aging population as it does to other age groups. Included in such services is consultation to the practicing physician regarding problems of aging and planning for aging people. Physicians have been utilizing the services of the local mental health centers for diagnosis and treatment planning for elderly patients.

The Division of Mental Hygiene is cooperating with the State Mental Hospitals and county health departments in a program of follow-up of mentally ill patients and their families from the time of the patient's commitment to a State Mental Hospital. Many of these patients are in the upper age group. This program is in operation in Etowah, Jefferson and Tuscaloosa counties. It will be extended to other counties later.

The Division of Mental Hygiene is planning a program of activities to work cooperatively with all state agencies concerned with the problems of the aging. This plan will provide for cooperation with the Health Department's Division of Chronic Diseases and Aging, the Department of Education's Division of Vocational Rehabilitation, the Department of Pensions and Security, Department of Industrial Relations and the State Mental Hospitals.

The services described above, as well as consultation regarding specific problems of aging patients, are available from the local mental health centers which are located at Birmingham, Auburn, Gadsden, Florence, Tuscumbia, Mobile, Montgomery, Huntsville, Tuscaloosa and Tuskegee.

The major programs through which the Health Department serves the aging have been described herein. The Health Depart-



ment would be better able to serve the aging and the aged if the following needs were met:

Funds to strengthen county health departments by additional nurses for home visiting,

Increased financial support of the cancer program,

Strengthened support of nursing homes, both as to construction and supervision,

Funds for expanded geriatric clinics,

Increased funds for the Indigent Hospitalization Program, and

Support for an accident prevention program.

Public health traditionally emphasizes prevention. Prevention should certainly be an effective measure against chronic diseases which, today, are a concomitant of advancing age. Prevention of chronic disease requires careful consideration of the etiology and predisposing factors, including acute childhood diseases and environmental factors. As more of these conditions are discovered, preventive measures on a practical basis can be formulated and put to use.

Aging is a process which is not limited to old people where it is easily recognized. It begins at birth, and all events in the lifetime of an individual have an influence on the aging process. Public health serves all people regardless of age. Thus, specific efforts in the field of aging serve to complete the public health effort throughout the life of the individual. The Department of Public Health is vitally interested in the problems of the aged and chronically ill and is fully aware of its responsibility to provide services for this group. As the individual and his needs change, so must the programs of the health department serving him.

ANNUAL SESSION  
OF THE ASSOCIATION  
ADMIRAL SEMMES HOTEL  
MOBILE

APRIL 21, 22, 23

**Better Care Adds Years to Paraplegics and Quadriplegics**—Modern treatment has added years to the lives of persons suffering disabling paralysis, according to Veterans Administration researchers.

A report on a study of paraplegics and quadriplegics made by the VA Department of Medicine and Surgery was published in the January 9 Journal of the American Medical Association.

"While many problems of therapy and total rehabilitation are still unresolved, physicians concerned with the care of patients with traumatic paraplegia and quadriplegia have had ample evidence of the increasing effectiveness of their treatment techniques," according to the article. "It has also been generally agreed that current therapies have added years to the lives of these patients."

The researchers analyzed the survival rate of 575 patients under 60 years of age when injured who were under observation in VA hospitals at some time during an 11-year period after the onset of their paralysis.

They found that the mortality rate among patients during the first year after spinal cord injury was "5 to 10 times higher than the average annual mortality among survivors during the subsequent 10-year period."

"Patients with quadriplegia have a much poorer prognosis of surviving the first year after injury than do paraplegic patients of the same age. Younger patients have an excellent chance of recovering from the immediate effects of the trauma and resulting paralysis.

"About 92 per cent of hospitalized paraplegic patients under 45 years of age at the time of injury and 87 per cent of hospitalized quadriplegic patients under 25 years of age can be expected to be alive one year after injury.

"More than 80 per cent of the paraplegic or quadriplegic patients under 35 years of age at the time of injury are likely to be alive 10 years later if they survive the high mortality risks during the first year after injury."

This latter mortality figure is "not markedly in excess of that of the general population of similar age," the researchers said.

"Since it is believed that therapeutic methods have improved . . . the survival rate of patients with traumatic paraplegia and quadriplegia currently admitted to Veterans Administration hospitals is expected to be even more encouraging," they concluded.

The article was prepared by Mary H. Burke, M. A., Annie F. Hicks, Morton Robins, M. S. P. H., and Harry Kessler, M. D., Washington, D. C.





## INCREASED INTEREST IN THE AGED

It is evident that, for a variety of motives, increasing attention is being given to the older population and to aging; and this is true of both governmental and non-governmental activities.

Congress has shown its interest in a variety of ways. The number of bills introduced with special provisions for older persons has grown rapidly in recent years and may be expected to continue to rise. Passage of the Fogarty Bill calling for a White House Conference in 1961, and appropriation of funds to the states for preconference activities, is the major action to date. Twice in the past two years the House of Representatives' Ways and Means Committee has held public hearings on the Forand Bill, a proposal which provides that restricted compulsory health insurance be created for all Old Age and Survivors Insurance beneficiaries under Social Security. The Senate Labor and Public Welfare Committee has created a subcommittee on Problems of the Aged and Aging under the chairmanship of Senator Patric V. McNamara. This subcommittee has held hearings both in Washington and in other major cities throughout the nation. The chairman of the A. M. A. Committee on Aging participated in the initial hearings of this subcommittee held in Washington, June 16-18, 1959.

Every executive department of the federal government is engaged in activities carrying special implications for the older person. The Department of Health, Education, and Wel-

# *Editorials*

fare, in particular, is deeply involved.

Numerous other national organizations, with widely varied interests, have entered or are entering the field of aging with new emphasis. Typical of these are the American Hospital Association, National Social Welfare Assembly, the American Public Health and Welfare Association, National Health Council, many national church organizations, federated women's groups, the American Nursing Home Association, the National Association of Manufacturers, National Conference on Homemaker Services, and the Council of State Governments, to mention but a few.

State governments are also directing increased attention to aging. Thirty-nine states now have official commissions, councils, or committees on aging, either through executive or legislative action. This growth has been partly stimulated by the coming White House Conference, but over 30 states had such special agencies prior to passage of the authorizing act.

At the local level, an increasing number of community councils on aging are being created and special projects, both study and action, are being undertaken.

Because health receives so much emphasis in all of these activities, it is imperative that the medical profession provide its special knowledge to such programs and vigorously make its leadership felt at national, state, and local levels. This it is doing.

It is perhaps significant, and hopefully so, that non-medical groups active in the field of aging are turning to medical society committees for guidance. No group, professional or non-professional, has surpassed medicine in its display of interest in meeting the needs which have been created, rightly or wrongly,



for individual citizens by reason of their age.

The American Medical Association's program on behalf of older persons has been repeatedly pointed to by non-medical specialists in the field of aging as a "model." This reputation has been achieved only because of outstanding leadership in the state and county medical societies. If it is to be maintained, such leadership must continue to grow.

Forty-eight state medical associations now have committees on aging. These committees can and will provide a springboard from which to promote study into the needs of older citizens, to initiate state and community programs for meeting these needs, and to stimulate an informed interest on the part of the profession and the public-at-large.

County medical societies can play an equally valuable role in implementing such educational and action programs in their own localities. They, as no other group, are in a position to assume leadership where it is most needed—at that level closest to the individual, his family and the community where he lives and works. They are in direct touch with the special needs of their own community and can tailor their actions accordingly.

Finally, the individual physician in his own practice can do a vital educational as well as therapeutic job. He can play a key role in promoting continued health, by encouraging his patients to live to their maximum capacity and to develop and follow health maintenance programs suited to their individual needs. He can encourage his older patients to establish sustaining interests outside of their work, to fill the gap left when they are no longer devoting forty hours a week to a job. He can call their attention to the availability of health insurance for those who do not have it. The physician's continuing counsel on dietary, exercise and rest habits, and his guidance in physical, psychological and economic preparation for later years can insure that his patients arrive at the age of sixty-five or seventy with a firm foundation for continued full living.

## MEDICAL AND SOCIAL PROBLEMS OF THE AGED IN ALABAMA

Contributed by

Jack Kirschenfeld, M. D.

Chairman, Committee on Aging  
State Medical Association

It has long been obvious that sooner or later contemporary society would have to "come to grips" with the problem of aging and the aged. Primitive society solved this problem ruthlessly by abandoning the old and the sick as the tribe moved on to "greener pastures." Civilized society, on the other hand, has always required that each family unit in each community take care of its old people just as it did its young. No distinction was made between the aged and the other segments of the population. This was ideal and worked very nicely in the rural areas and as long as the society was primarily agrarian and the aged population small.

However, with the rapid advance in industrialization and the urbanization of much of the population, it became more difficult for the individual families to look after their old people. The elderly person became just one more mouth to feed and a source of considerable friction in cramped quarters. Enforced retirement, idleness and illness compounded the problem. Moreover, with the tremendous advances in medical care in the past decades, more individuals lived through infancy and middle age and went on to swell the ranks of the aged. Whereas, early in the 20th century, 5% of the population of the United States was over the age of 65, the percentage in 1958 rose to 11%, and it is calculated that by 1975 this will reach 20%. We, in the state of Alabama, are especially concerned since it has been recently estimated that 50% of the nation's old age assistance recipients are now residing in the South. Life expectancy for the 65 year-old male is now 13 years and for the female 15½ years. A married female can expect to be a widow for 10 years. Approximately 1/3rd of the population over age 65 is colored.

In addition to the explosive increase in the old age population, there has been a decided change in modern man's philosophy towards



aging. In a society, which places its greatest emphasis on material accomplishment, gadgets, speed and strength, the elderly citizen has become an anachronism. He soon realizes that he is not needed and furthermore, very often, not wanted. This feeling of uselessness and "not belonging," plus the enforced idleness of retirement and the frequent infirmity due to chronic illness, makes him a very fractious person.

The family unit has tended increasingly to look towards government for relief. There has been a remarkable increase in the confinement of the aged in state mental institutions, chronic disease hospitals and nursing homes. In short, modern society has tended to lose its reverence and pride in its older members and to solve the problem by putting it out of sight.

Recently various agencies have begun to "tackle" this very complex problem. The American Medical Association has been very active through its Committee on Aging. The latter encouraged each State Medical Association to appoint similar committees and to attack the problem from a medical viewpoint at a state level.

The Committee on Aging of the Medical Association of the State of Alabama was organized in the summer of 1958; its first step was to ascertain the extent of the problem in Alabama. The situation appeared to be as follows: (1) Approximately 45% of the 250,000 Alabamians over age 65 were receiving old age assistance payments. These payments averaged about \$45.00 per month. Some 50% of the individuals over age 65 received some social security payments; however, since many had been farmers and just recently covered, the payments were small (average \$56.00 per month). It was estimated, therefore, that approximately  $\frac{3}{4}$ ths of the aged in Alabama were probably medically indigent. (2) Most of the nursing homes in the state were, in general, obsolete, overcrowded and in rather poor condition. There was a lack of trained personnel and facilities. It was obvious that many patients in these homes could probably be cared for at home

if proper home care could be provided. (3) Blue Cross-Blue Shield and other insurance companies were beginning to extend coverage to those over 65, and some industries were permitting their retired employees to continue their coverage; however, many were still not covered by voluntary insurance. Premiums for the group joining after age 65 are higher.

The Committee on Aging, therefore, formulated the following goals: (1) to acquaint the physicians in the State with the problem through an educational program, and to encourage the participation of each physician in community programs for the aged; (2) to work closely with the State Health Department in its efforts to improve nursing homes and the chronic disease hospitals in the State. It was felt that at least one good nursing home should be established in each county, preferably associated with the county hospital or a general hospital; (3) to encourage widespread extension of voluntary hospital insurance for the aged, which now covers 25% over 65. Nationwide surveys indicated that the aged could always obtain needed physician care, either by self-payment or through agencies, clinic or free physician services but that unexpected hospitalization was the chief problem. Approximately 60 to 70% of the medical expense in this group was incurred for hospitalization, 15% for drugs, and 10% for professional services; (4) to act in an advisory capacity to the various social and state agencies working with the aged. The Committee is now represented on the Governor's Advisory Committee on Aging, which is formulating plans for participation in the White House Conference on Aging to be held in Washington, D. C., in January 1961; (5) to work with the Legislature, the Governor and other interested parties in evolving a realistic program of medical aid to the aged on the welfare rolls. Federal funds are available. However, because of a lack of state matching funds, Alabama has made little use of these funds. It is hoped that a satisfactory program can be worked out whereby the old age pensioner will be able to avail himself of the doctor and hospital of his choosing



without undue political domination; (6) to help organize a Joint Council to Improve the Health Care of the Aged which will include representatives of the medical, dental, hospital, nursing home and nursing associations. This was achieved on August 27, 1959. This organization will act as a clearing house for the various medical activities in this field.

It is hoped that the above program of the medical and allied professions, in conjunction with the efforts of the numerous social, religious and governmental agencies, will go far towards alleviating the problems of the aged population in Alabama.

It is the feeling of the committee, and of many people working in this field, that the problem of the aged and aging cannot be divorced from that of the remainder of the population. It is hoped that the public can be made to realize that the elderly person has much to contribute and can continue to contribute for the duration of his life; that industry and government must realize that it is unrealistic to retire a man at a fixed age regardless of his ability. Many of these older people can continue to work productively for many years. It is hoped that we can drive home the vital thought that the care of the aged is basically a family and community problem, best handled at local levels, with the coordination and help of the various state and national agencies.

We feel that it is the duty of the medical profession to see that our magnificent medical services are readily available and within the means of our senior citizens. Finally, we, as doctors, can educate our patients of all ages to lead clean and healthy lives and develop their innate intellectual and emotional resources to the utmost, so that with aging and with the inevitable loss of some of their physical powers they will not be deprived of the continued enjoyment of life.

### CORRECTION

The following paragraph should have preceded Example: J. B. on the first page of Dr. Bruce Logue's article in the January Journal. It was a manuscript omission.

Not infrequently, a chronic cough is the

presenting complaint in congestive heart failure. There may be no dyspnea or edema. The problem is made more difficult by the fact that a respiratory infection may have induced failure and the cough may be wrongly attributed to bronchial infection. Such a sequence is common in children with congenital heart disease with left to right shunts, and the true nature of a hacking cough in this setting may be overlooked. One should have a high index of suspicion when evaluating the complaint of cough in the person with known heart disease.

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**Heart Ailments Top Killer of Aged**—Diseases of the heart and blood vessels are the major cause of death among persons over 80, according to a study conducted at the University of Colorado.

Dr. R. M. Mulligan of the department of pathology, University of Colorado School of Medicine, Denver, reported on his study of more than 300 deaths in the January American Medical Association Archives of Pathology.

He said an evaluation of fatal disease of old age should help doctors anticipate and treat ailments among elderly patients at an earlier and more amenable stage.

Autopsies performed on 336 persons who died at Colorado General Hospital between 1940 and 1955 showed 37 per cent died of cardiovascular disease, 16.3 per cent of cancer, 12.4 per cent of infectious diseases, and 12.1 per cent of accidental injuries.

High blood pressure was the leading killer among cardiovascular disorders followed by hardening of the arteries. The most prevalent type of cancer was that of the prostate gland. The most frequently fatal infectious disease was bronchopneumonia.

Heart disease and cancer are the number one and two causes of death among the general population. Cancer of the skin is the most prevalent type among persons of all ages.

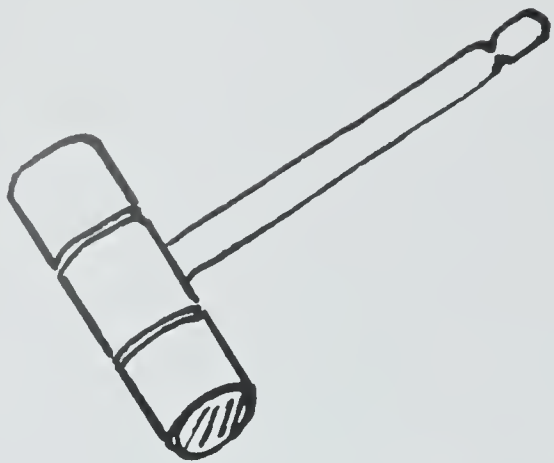
The study indicated a higher ratio of heart disease, cancer, and infectious disease among men than women.

The 336 persons included 239 men and 97 women, a ratio of 2.45. The incidence of heart ailments showed a ratio of 3.67, of cancer 3.14, and of infectious disease 3.9.

However, more women than men died of accidental injuries. Of 43 accidental deaths, 24 were women and 19 men. The most frequent locale of the accident was the home (37 cases) and the most frequent type was a fracture (36 cases).

The figures also showed that there was at least a 50 per cent chance that the primary cause of death would be many of the cardiovascular diseases, cancer, an accidental injury, appendicitis, or diabetes mellitus.





# President's Page

## FORTY YEARS AGO

**W**HEN the Association met in Anniston in 1920, with Dr. James S. McLester of Birmingham occupying the president's chair, welcome was extended by Dr. Jerre Watson, representing the Medical Society of Calhoun County. "Thirty-four years ago," said Dr. Watson, "this society and this city were honored with the presence of this great organization. We are pleased to have you with us again."

Three years before this meeting (on January 9, 1917), Dr. Samuel Wallace Welch had been elected State Health Officer, succeeding Dr. William H. Sanders. Dr. Welch, in his report to the Association at this meeting, referred to the 1919 session of the Legislature, stating that it had "passed, without amendment, the bill proposed by the State Board of Health for the enlargement and expansion of its work. Besides making such changes in the old law as were recommended by the Board, an appropriation of \$90,000 was made for the year 1919-1920, \$125,000 for 1920-1921, and \$150,000 annually thereafter." This was significant in the light of what the Board had had at its disposal for the protection of the health of the people. The Legislature of 1879 had made the initial appropriation of \$3,000 per year, and the amount was increased to \$15,000 in 1907. The next increase was to \$25,000 in 1911, and there the appropriation stood until 1919, when, in the administration of Governor Thomas E. Kilby of Anniston, the larger amounts set forth above were made available.

A feature of the 1920 meeting was the Jerome Cochran Lecture (established in 1898 on the recommendation of Dr. L. L. Hill of Montgomery) delivered by Dr. Henry A.

Christian of Harvard University on "Bright's Disease—With Special Reference to Its Treatment." In his preamble, Dr. Christian said: "I accepted your invitation in anticipation of a hearty welcome. My expectations have been far surpassed in the welcome that I have had since I have been among you. I like this part of the country. I was born in Virginia, educated in Virginia, and lived my life in Virginia until I was transplanted into the New England country."

In concluding the Lecture, Dr. Christian said: "In the time available, I have been able to present the subject in but a sketchy way, with many omissions, but I hope I may have brought you a few suggestions of value. If nothing more has been accomplished, I have at least stirred up some doubts in your minds as to the value of the removal of tonsils and teeth, and the use of diuretic drugs in nephritis. Indiscriminate tonsillectomy and tooth extraction are useless and may be harmful. It is better not to have theories as to diuretics, but to know actually what they are causing in the patient you are treating. It is absolutely wrong to diagnose nephritis on the basis of finding albumin and casts in the urine, or because of any single symptom or sign. Some people treat a patient on the basis of a diagnosis, not on the basis of a knowledge of actual conditions in that individual patient. On the other hand, intelligent individual management of the nephritic patient can accomplish much. If this is your goal, then you need to study your patients thoroughly; simple means, such as are available to all of you, are sufficient."

*W. R. Carter*





# ORGANIZATION SECTION

## PROGRAM OF THE ANNUAL SESSION OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA MOBILE

APRIL 21, 22, 23, 1960  
ADMIRAL SEMMES HOTEL

### GENERAL INFORMATION

All sessions of the Association and exhibits will be at the Admiral Semmes Hotel, convention headquarters.

The maximum time consumed by essayists should not exceed twenty minutes. This time limit, however, does not apply to invited guests. It is suggested that the salient features of papers be presented within this time, reserving the complete elaboration for publication in the Journal of the Association.

All papers read before the Association should be deposited with the Secretary when read; otherwise, their publication may be delayed.

Papers will be called in the order in which they appear on the program. Should the reader be absent when called, his paper will be passed, and called again when the program is concluded.

### REGISTRATION

The registration desk will be on the lobby floor of the hotel. Be sure to register.

### THE FIFTY YEAR CLUB

According to custom, physicians who graduated fifty years ago will be honored by the Association at this meeting. Their names appear in the program.

### HOST TO THE ASSOCIATION

The Mobile County Medical Society

### OFFICERS

Charles M. Walsh III, *President*  
Socrates N. Rumpanos, *President-Elect*  
Carlton W. Winsor, *Secretary-Treasurer*

### BOARD OF CENSORS

Sam S. Murphy, *Chairman*  
Harry N. Webster, Jr.    Clement A. Lightcap  
Edwin D. Morton        Philip P. Gilchrist

### COMMITTEES

Clement A. Lightcap, *General Chairman*  
Carlton W. Winsor, *Co-Chairman*

### Hotel

John W. Donald, *Chairman*  
Daniel F. Sullivan, *Co-Chairman*  
Raymond E. Abell        James W. Coker  
C. Adrien Bodet        A. K. Conditt, Jr.  
Samuel P. Marshall

### Scientific Exhibits

Edwin L. Scott, *Chairman*  
William E. Purvis, III, *Co-Chairman*  
William J. Atkinson    Monte A. Lauter  
Steiner D. Garrett    Andreas V. Mortensen  
Earl B. Wert

### Commercial Exhibits

Church E. Murdock, Jr., *Chairman*  
Shepard Jerome, *Co-Chairman*  
Frederick H. DeVane    Neal S. Flowers  
James H. Erwin        Robert T. King  
William H. Tucker

### Transportation

Gordon E. Carroll, *Chairman*  
James A. Whiting, *Co-Chairman*  
Francis T. England    Walter H. Minor  
Robert O. Harris, III    John F. Shriner  
Emit L. McCafferty, Jr.    H. F. Skinner, Jr.  
Charles D. Terry

### Motion Pictures, Lights, Microphones and Lantern Slides

Harry N. Webster, Jr., *Chairman*  
Henry M. Gewin, *Co-Chairman*  
Herbert V. Allen        Ernest L. Brown  
Julian S. Lewis

### Publicity

Arthur A. Wood, *Chairman*  
H. Aubrey White, Jr., *Co-Chairman*  
William G. Fonde'        George M. March  
Paul M. Goldfarb        David M. Mullins

### Hospital Visitation

Marion H. Dodson, *Chairman*  
Philip P. Gilchrist, *Co-Chairman*  
John K. Lingo        Sam S. Murphy  
Edwin D. Morton    Clarence V. Partridge  
Peyton R. Tunstall



PROGRAM OF THE ANNUAL SESSION

Finance

Ernest B. Agee, *Chairman*  
Carlton W. Winsor, *Co-Chairman*  
Howard S. Cowley      Irving A. Koffler  
William T. Wright

Entertainment

George W. Newburn, Jr., *Chairman*  
William L. Sellers, *Co-Chairman*  
M. Vaun Adams      Joseph R. Mighell, III  
James T. Baker      John Day Peake  
Albert C. Haas      Guy C. Oswalt  
Joe H. Little      Charles L. Rutherford  
Frank H. Maury      R. Denny Wright

Reception

Claude M. Warren, *Chairman*  
Jack Hyman, *Co-Chairman*  
Claude L. Brown, Jr.      Leon V. McVay, Jr.  
Norborne R. Clarke, Jr.      J. Richard Moore, Jr.  
William Leslie Heiter      John E. Moss  
Vivian H. Hill      O. M. Otts, Jr.  
Joseph M. Weldon

HONORARY CHAIRMEN

(Past Presidents, Medical Society of  
Mobile County)

Lee W. Roe	1918
George Guy Oswalt	1929
Joseph M. Weldon	1930
William C. Hannon	1931
James H. Dodson	1932
John Mac Bell	1933
Harry R. Cogburn	1934
Lotta Winston Hollis	1936
Toxey D. Haas	1937
Herbert B. Dowling, Jr.	1938
Grady O. Segrest	1939
Emmett B. Frazer	1941
Howard S. J. Walker	1942
Charles L. Rutherford	1943
Jacques H. Baumhauer	1944
Cecil H. Ross	1945
John Day Peake	1946
F. Thomas Boudreau	1947
Norborne R. Clarke	1949
Mack J. Roberts	1950
Andrew D. Henderson	1951
David F. Sellers	1952
M. Vaun Adams	1954
Vivian H. Hill	1955
Frank T. England	1956
Arthur A. Wood	1957
Joe H. Little	1958
Howard S. J. Walker, Jr.	1959



OFFICERS OF THE ASSOCIATION

President

William R. Carter      Repton

President-Elect

Hugh E. Gray      Anniston

Vice-Presidents

W. D. Anderson      Tuscaloosa  
E. L. Strandell      Brewton  
W. E. White      Anniston  
J. A. Brantley      Troy

Secretary-Treasurer

Douglas L. Cannon      Montgomery

Executive Secretary

W. A. Dozier, Jr.      Montgomery

Executive Assistant

W. V. Wallace      Montgomery

The State Board of Censors

E. V. Caldwell, Chm.      Huntsville  
J. G. Daves      Cullman  
John W. Simpson      Birmingham  
J. Paul Jones      Camden  
Robert Parker      Montgomery  
J. P. Collier      Tuscaloosa  
J. O. Finney      Gadsden  
J. Mac Barnes      Montgomery  
W. S. Littlejohn      Birmingham  
G. O. Segrest      Mobile

State Health Officer

D. G. Gill      Montgomery

Delegates and Alternates to the American  
Medical Association

Delegate—E. Bryce Robinson      Fairfield  
Alternate—B. W. McNease      Fayette  
(Term: January 1, 1959-December 31, 1960)  
Delegate—M. Vaun Adams      Mobile  
Alternate—Luther L. Hill      Montgomery  
(Term: January 1, 1960-December 31, 1961)



PROGRAM

First Day, Thursday, April 21

Ball Room A  
Admiral Semmes Hotel

Morning Session

9:00 A. M.

Call to order by the President—  
William R. Carter, Repton

Invocation—  
The Reverend David H. Edington, Pastor,  
Spring Hill Presbyterian Church, Mobile.

Addresses of Welcome—  
Honorable Joseph N. Langan, Mayor, City of  
Mobile.  
Charles M. Walsh III, President, Mobile County  
Medical Society.



# PROGRAM OF THE ANNUAL SESSION

## PART I

### REPORTS OF STANDING COMMITTEES

1. Public Relations—  
*Julius Michaelson, Chairman.*
2. Medical Education and Hospitals—  
*John W. Donald, Chairman.*
3. Medical Care For Industrial Workers—  
*E. Bryce Robinson, Chairman.*
4. Insurance—  
*J. O. Morgan, Chairman.*
5. Finance—  
*William D. Anderson, Chairman.*
6. Constitution and By-Laws—  
*John W. Davis, Jr., Chairman.*
7. Indigent Care—  
*Robert C. Berson, Chairman.*
8. Legislation—  
*M. Vaun Adams, Chairman.*
9. Rural Health—  
*Paul Nickerson, Chairman.*
10. Disaster—  
*Arthur I. Chenoweth, Chairman.*
11. Veterans Affairs—  
*O. Emfinger, Chairman.*
12. Maternal and Child Health—  
*James H. French, Chairman.*
13. Aging—  
*Jack J. Kirschenfeld, Chairman.*
14. Cancer Control—  
*W. Nicholson Jones, Chairman.*
15. Mental Hygiene—  
*Frank A. Kay, Chairman.*
16. Tuberculosis and Chronic Pulmonary Diseases—  
*Otis Jordan, Chairman.*
17. Space Medicine—  
*Burton S. Shook, Sr., Chairman.*

### SPECIAL COMMITTEES

1. American Medical Education Foundation—  
*David E. Owensby, Chairman.*
2. Blue Cross-Blue Shield—  
*Haywood S. Bartlett, Chairman.*
3. A. M. A. Program Evaluation—  
*Ernest M. Moore, Chairman.*

### REPORTS OF OFFICERS

Secretary-Treasurer—  
*Douglas L. Cannon, Montgomery.*

Executive Secretary—  
*W. A. Dozier, Jr., Montgomery.*

- Vice-Presidents—
- (1) Northwestern Division  
*W. D. Anderson, Tuscaloosa.*
  - (2) Southwestern Division  
*E. L. Strandell, Brewton.*
  - (3) Northeastern Division  
*W. E. White, Anniston.*
  - (4) Southeastern Division  
*J. A. Brantley, Troy.*

The President's Message—  
*William R. Carter, Repton.*

## PART II

### SCIENTIFIC PROGRAM

1. *The New Role of the Generalist in the Treatment of Mental Cases with the New Tranquilizing Drugs—*  
CLYDE BROOKS,  
Psychiatrist, Neurologist,  
Tuscaloosa, Alabama.
2. *Carcinoma of the Lung—*  
ORVILLE W. CLAYTON  
Surgeon,  
Birmingham, Alabama.
3. *Sources of Error in the Diagnosis of Pulmonary Disease—*  
JOHN E. MOSS,  
Internist,  
Mobile, Alabama.
4. RECOGNITION OF ESSAY CONTEST WINNER
5. *Hypothermia in the Management of Brain Injuries—*  
GARBER GALBRAITH,  
Surgeon,  
Birmingham, Alabama.
6. *Physicians for Growing Alabama—*  
ROBERT C. BERSON,  
Internist,  
Birmingham, Alabama.



### Afternoon Session

Thursday, April 21

2:00 P. M.

1. *Rehabilitation Adds Life to Years—*  
FRANK H. KRUSEN,  
Chairman, Committee on Rehabilitation,  
American Medical Association,  
Washington, D. C.
2. *Vulvar Lesions—*  
W. NICHOLSON JONES,  
Obstetrician-Gynecologist,  
Birmingham, Alabama.
3. RECOGNITION OF FRATERNAL DELEGATES.
4. *The Surgeon Takes a Look at Traumatic Injuries of the Face—*  
NEAL OWENS,  
Professor of Clinical Surgery,  
Tulane University School of Medicine,  
New Orleans, Louisiana.
5. *The Use and Abuse of Hormones in Children—*  
ALVIN B. HAYLES,  
Section of Pediatrics,  
Mayo Clinic,  
Rochester, Minnesota



### Second Day, Friday, April 22

### Morning Session

Ball Room A

9:00 A. M.

1. *Danger Signals Pointing to Depressive Illness—*  
FRANK A. KAY,  
Psychiatrist,  
Birmingham, Alabama.



## PROGRAM OF THE ANNUAL SESSION

2. *Angio-Aortography*—  
CHAMP LYONS,  
Surgeon,  
Birmingham, Alabama.
3. WILLIAM CRAWFORD GORGAS AWARD.
4. *Leadership and Legislation*—  
F. J. L. BLASINGAME,  
Executive Vice President,  
American Medical Association,  
Chicago, Illinois.
5. RECOGNITION OF THE FIFTY YEAR CLUB.
6. THE JEROME COCHRAN LECTURE:  
*Changing Concepts in the Treatment of Cancer  
of the Cervix*—  
JOE VINCENT MEIGS,  
Clinical Professor of Gynecology,  
Harvard Medical School,  
Boston, Massachusetts.

\* \* \*

### Afternoon Session

Friday, April 22

2:00 P. M.

1. *Polycystic Ovary Syndrome*—  
ROBERT B. GREENBLATT,  
Professor of Endocrinology,  
Medical College of Georgia,  
Augusta, Georgia.
2. *Immunohematology*—  
EARL B. WERT,  
Pathologist,  
Mobile, Alabama.
3. *Spleens, Amines and Proteins: A Sketch of the  
Globulin Disorders*—  
WALTER B. FROMMEYER, JR.,  
Internist,  
Birmingham, Alabama.
4. MEDICAL REPORTERS AWARD.
5. *Gallstones, Hiatus Hernia, et al.*—  
T. BRANNON HUBBARD, JR.,  
Surgeon,  
Montgomery, Alabama.
6. *Radiation: Physician and Patient*—  
DAVID S. CARROLL,  
Associate Professor of Radiology,  
University of Tennessee College of Medicine,  
Memphis, Tennessee.

\* \* \*

Last Day, Saturday, April 23

Ball Room A

9:00 A. M.

Business Meeting of the Association sitting as  
the Board of Health of the State of Alabama:

- (1) Report of the Board of Censors;
- (2) Revision of the Rolls:
  - (a) County Societies,
  - (b) Counsellors,
  - (c) Correspondents;
- (3) Election and Installation of Officers.

Adjournment

## OTHER ITEMS

### THE FIFTY YEAR CLUB

#### Class of 1960

(To whom Certificates of Distinction will be  
awarded on Friday morning immediately before  
the Jerome Cochran Lecture.)

Sidney D. Armistead	Robertsdale
William J. Blount	Millry
Robert E. Cloud	Ensley, Birmingham
Harris P. Dawson	Montgomery
Gilbert F. Douglas, Sr.	Birmingham
Joseph H. Durrett	Tuscaloosa
Oscar N. Edge	Troy
Hugh D. Greer	Decatur
C. P. Hausman	Coaling
T. Brannon Hubbard, Sr.	Montgomery
Robert P. Irwin	Moulton
Thomas V. Magruder	Birmingham
Mayer A. Newhauser	Mt. Vernon
Martin L. Shaddix	Alabama City
Richard V. Taylor, Jr.	Mobile
Woodie R. Taylor	Town Creek
James Williams	Jacksonville
Ollie E. Wilson	Birmingham

#### VACANCIES IN THE COLLEGE OF COUNSELLORS

The following vacancies in the College of Counsellors will present at this meeting of the Association:

1st Congressional District—2. Gayle T. Johnson has completed his first term of seven years. Under reapportionment of Counsellors by the State Board of Censors, the district is allotted a counsellorship to which it is entitled.

2nd Congressional District—2. L. L. Parker and A. J. Treherne have completed their first terms of seven years.

4th Congressional District—2. G. E. Newton has completed his first term of seven years. G. G. Woodruff is to be elevated to Life Counsellor.

5th Congressional District—2. R. J. Guest, Jr. has completed his first term of seven years. A. L. Isbell is to be elevated to Life Counsellor.

6th Congressional District—1. J. Donald Smith has completed his first term of seven years.

7th Congressional District—1. W. E. Wilson has completed his first term of seven years.

9th Congressional District—5. D. C. Donald is deceased. J. M. Donald and E. G. Givhan, Jr. have completed their second terms of seven years. Under reapportionment by the State Board of Censors, the district is allotted 2 counsellorships to which it is entitled.

#### SCIENTIFIC EXHIBITS

Anyone who desires space for a scientific exhibit for the annual session of The Medical Association of The State of Alabama, Mobile, April 21-23, is invited to write for information to Dr. Edwin L. Scott, P. O. Box 4097, Mobile, Alabama.



## PROGRAM OF THE ANNUAL SESSION

### OTHER EVENTS

**April 20, 1960**

#### **Alabama Orthopaedic Society**

The Alabama Orthopaedic Society will meet at 9:00 A. M. The place of meeting and the program will be announced.

#### **Alabama Chapter**

##### **American College of Chest Physicians**

The meeting will be held at 2:30 P. M. at the Admiral Semmes Hotel. The speakers will be Dr. Ben V. Branscomb, Assistant Professor of Medicine, Medical College of Alabama, Birmingham; Dr. Martin J. Sokoloff, Professor of Medicine, Jefferson Medical College, Philadelphia, Pennsylvania; Dr. Charles Rice, Professor of Radiology, Tulane University School of Medicine, New Orleans, Louisiana; Dr. Louis Raider, Radiologist, Providence Hospital, Mobile, Alabama; and Dr. Neal Flowers, Radiologist, Mobile Infirmary, Mobile, Alabama.

**April 22, 1960**

#### **Alabama Division**

##### **International College of Surgeons**

There will be a breakfast and business meeting of the International College of Surgeons at 7:30 A. M. at the Admiral Semmes Hotel.

#### **Alabama Radiological Society**

A luncheon will be held at 12:30 P. M. at the Admiral Semmes Hotel. The speaker will be Dr. David S. Carroll, Professor of Radiology, University of Tennessee College of Medicine, Memphis, Tennessee, and his subject will be "Practical Aspects of the Practice of Radiology."

#### **Alumni Association Medical Department University of Alabama**

The annual business meeting and election of officers will be held at 6:30 P. M. The speaker will be Major General Ralph C. Williams, USPHS (Retired), Atlanta, Georgia. The place of meeting will be announced.

### SOCIAL EVENTS

**Wednesday, April 20, 1960**

The Pfizer Golf Tournament will be held at the Mobile Country Club.

**Thursday, April 21, 1960**

Members of the Association and their guests will be entertained at a reception and buffet dinner at 6:30 P. M. at the Mobile Country Club.

**Friday, April 22, 1960**

Members of the Association and their guests will be entertained at the Presidential Ball at 8:00 P. M. at the Skyline Country Club.

### PROGRAM OF THE WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Battle House Hotel

**April 21-22, 1960**

### OFFICERS

#### **President**

Mrs. George W. Newburn, Jr. .... Mobile

#### **President-Elect**

Mrs. John T. Morris ..... Cullman

#### **Vice-Presidents**

Mrs. W. L. Smith ..... Montgomery

Mrs. T. M. Owens ..... Attalla

Mrs. P. H. Warren ..... Jackson

Mrs. J. O. Brooks ..... Hamilton

#### **Recording Secretary**

Mrs. Joe Cromeans ..... Scottsboro

#### **Corresponding Secretary**

Mrs. Howard S. J. Walker, Jr. .... Mobile

#### **Treasurer**

Mrs. Chester Beck ..... Troy

#### **Finance Officer**

Mrs. J. O. Colley, Jr. .... Troy

#### **Auditor**

Mrs. John Kimmey ..... Elba

#### **Historian**

Mrs. Jack Clayton ..... Birmingham

#### **Parliamentarian**

Mrs. William G. Thuss ..... Birmingham

#### **Directors**

Mrs. H. L. Rosen ..... Montgomery

Mrs. J. R. Horn ..... Bessemer

Mrs. William Noble ..... Fort Payne

### COMMITTEE CHAIRMEN

A. *Sponsored by Woman's Auxiliary, American Medical Association:*

American Medical Education Foundation—

Mrs. Seaburt Goodman, Birmingham.

Bulletin—Mrs. E. D. Morton, Mobile.

Civil Defense—Mrs. E. V. Caldwell, Huntsville.

Legislation—Mrs. R. Nelson Long, Selma.

Mental Health—Mrs. John Foster, Foley.

Membership—Mrs. John T. Morris, Cullman.

Members-at-large—Mrs. Joe Sherrod, Hayneville.

Paramedical Careers Recruitment—Mrs. L. H. Clemmons, Cullman.

Program—Mrs. W. O. Romine, Birmingham.



## PROGRAM OF THE ANNUAL SESSION

- Community Service—Mrs. F. M. Phillippi, Jr., Brewton.  
 Safety—Mrs. William Noble, Fort Payne.  
 SAMA—Mrs. Gray C. Buck, Jr., Birmingham.
- B. *Sponsored by Woman's Auxiliary, Southern Medical Association:*  
 Councilor to Southern—Mrs. H. L. Rosen, Montgomery.  
 Doctor's Day and Research and Romance of Medicine—Mrs. C. E. Price, Evergreen.
- C. *Sponsored by Woman's Auxiliary, Medical Association of the State of Alabama:*  
 Archives and Exhibits—Mrs. William Fonde', Mobile.  
 Lettie Daffin Perdue Scholarship—Mrs. A. D. Henderson, Mobile.  
 Memorial—Mrs. G. G. Woodruff, Anniston.  
 Newsletter—Mrs. William Brock, Montgomery.  
 Circulation Editor—Mrs. John Kent, Birmingham.  
 Press and Publicity—Mrs. Claude M. Warren, Jr., Mobile.  
 Co-chairman—Mrs. C. D. Terry, Mobile.  
 Revisions—Mrs. William G. Thuss, Birmingham.  
 Rural Health—Mrs. J. F. Holley, Florala.  
 Yearbook—Mrs. John Vanhoof, Mobile.  
 Nominating—Mrs. H. L. Rosen, Montgomery.  
 Essay Contest—Mrs. W. J. Rosser, Birmingham.  
 Handbook—Mrs. John Chenault, Decatur.
- D. *For Convention:*  
 Chairman—Mrs. B. B. Kimbrough, Mobile.  
 Archives and Exhibits—Mrs. William Fonde', Mobile.  
 Press and Publicity—Mrs. Claude M. Warren, Jr., Mobile.  
 Mrs. C. D. Terry, Mobile.

### Thursday, April 21

- 8:30 A. M.-3:00 P. M.—Registration, Battle House Hotel Lobby.
- 8:30 A. M.—Preconvention Executive Board Meeting, Mrs. George W. Newburn, Jr., President, Presiding, Dutch Breakfast, Battle House Hotel.
- 10:00 A. M.—First General Session, Battle House Hotel.
- Call to Order—Mrs. George W. Newburn, Jr., President, Mobile.
- Invocation—
- Membership Pledge—"I pledge my loyalty and devotion to the Woman's Auxiliary to the American Medical Association. I will support its activities, protect its reputation, and ever sustain its high ideals."
- Welcome—Mrs. George W. Newburn, Jr., Mobile.
- Introduction of Guests—Mrs. George W. Newburn, Jr., Mobile.
- Convention Rules of Order—Mrs. B. B. Kimbrough, Mobile.
- First Report of Credentials Committee—Mrs. Frank England, Mobile.

- Report of Reading Committee—Mrs. Joe Cromeans, Scottsboro.
- Annual Report of Officers.
- Annual Report of State Chairman on Display in Meeting Room.
- Annual Report of County Presidents:
- Northeastern District*—Mrs. T. M. Owens, Attalla.  
 Blount—Mrs. W. R. Sutton, Blountsville.  
 Calhoun—Mrs. John A. Edwards, Anniston.  
 DeKalb—Mrs. John Hanford, Collinsville.  
 Etowah—Mrs. Joe Ford, Gadsden.  
 Jackson—Mrs. E. Julian Hodges, Scottsboro.  
 Madison—Mrs. H. G. Bramm, Huntsville.  
 Marshall—Mrs. Jim Reeder, Arab.  
 Talladega—Mrs. Arthur Toole, Talladega.
- Northwestern District*—Mrs. J. O. Brooks, Hamilton.  
 Colbert—Mrs. Howard Johnson, Sheffield.  
 Cullman—Mrs. Frank Stitt, Sr., Cullman.  
 Jefferson-Birmingham—Mrs. John Slaughter, Birmingham.  
 Jefferson-Bessemer—Mrs. Robert T. Cale, Bessemer.  
 Lauderdale—Mrs. James G. Middleton, Florence.  
 Marion—Mrs. J. E. Gaba, Winfield.  
 Morgan—Mrs. David Chandler, Hartselle.  
 Pickens—Mrs. Robert K. Wilson, Aliceville.  
 Tuscaloosa—Mrs. James C. Guin, Jr., Tuscaloosa.  
 Walker—Mrs. H. B. Watkins, Oakman.
- Southeastern District*—Mrs. W. L. Smith, Montgomery.  
 Coffee—Mrs. J. E. Pittman, Jr., Enterprise.  
 Covington—Mrs. C. N. Matthews, Florala.  
 Elmore—Mrs. Winston Edwards, Wetumpka.  
 Geneva—Mrs. H. A. Childs, Samson.  
 Houston—Mrs. Norman C. Veale, Dothan.  
 Montgomery—Mrs. Paul D. Everest, Montgomery.  
 Pike—Mrs. J. O. Colley, Jr., Troy.
- Southwestern District*—Mrs. Palmer H. Warren, Jackson.  
 Baldwin—Mrs. Charles W. Gaston, Bay Minette.  
 Clarke—Mrs. Palmer H. Warren, Jackson.  
 Conecuh-Monroe—Mrs. William R. Carter, Repton.  
 Dallas—Mrs. G. C. Blanton, Selma.  
 Escambia—Mrs. F. M. Phillippi, Jr., Brewton.  
 Mobile—Mrs. Dixon Meyers, Mobile.
- Memorial Service—Mrs. G. G. Woodruff, Anniston.
- 1:00 P. M.—Dutch Luncheon, Skyline Country Club, Mrs. George W. Newburn, Jr., Presiding. Honoring Mrs. John Chenault, President, Woman's Auxiliary to the Southern Medical Association, and Mrs. Frank Gastineau, President, Woman's Auxiliary to the American Medical Association.
- Invocation.
- Welcome.
- Response.



## PROGRAM OF THE ANNUAL SESSION

Address—Mrs. John Chenault, Decatur.  
Entertainment—Accessory Style Show.

### Thursday Evening

See Doctor's Program

### Friday, April 22

8:30 A. M.-12:00 Noon—Registration, Battle House Hotel Lobby.

9:30 A. M.—Second General Session, Battle House Hotel.

Call to Order—Mrs. George W. Newburn, Jr., Mobile.

Invocation.

Introduction of Guests.

Second Report of Credentials Committee.

Minutes—Mrs. Joe Cromeans, Recording Secretary, Scottsboro.

Recommendation from the Executive Board.

Presentation of Budget for 1960-61—Mrs. J. O. Colley, Jr., Troy.

New Business.

Announcements.

Report of Nominating Committee—Mrs. H. L. Rosen, Montgomery.

Election of Officers.

Election of Nominating Committee.

Election of Delegates to National Convention.

Final Report of Credentials Committee.

Installation of Officers—Mrs. Frank Gastineau, President, Woman's Auxiliary to the American Medical Association, Indianapolis, Indiana.

Presentation of President's Pin and Gavel.

Presentation of Past-President's Pin.

Introduction of Committee Chairmen for 1960-61—Mrs. John T. Morris, Cullman.

1:00 P. M.—Luncheon at Battle House Hotel.

Honoring Mrs. Frank Gastineau, President, Woman's Auxiliary to the American Medical Association. Host, Mobile County Medical Auxiliary, Mrs. Dixon Meyers, Presiding.

Invocation.

Achievements Awards.

Introduction of Guests and New Officers.

Address—Mrs. Frank Gastineau.

Fashion Show.

Adjournment—

Following immediately, Postconvention Executive Board Meeting, Battle House Hotel.

### CONVENTION RULES OF ORDER

1. There will be a registration fee to include Friday luncheon.

2. All persons appearing on the program shall be seated in a reserved section at front of room.

3. Members of the voting body shall wear badges at all sessions of the convention.

4. When addressing the chair, the member shall rise, give her name, and the name of her county Auxiliary.

5. Unless notified to the contrary, each speaker shall be limited to two minutes and may not speak more than twice on any one question.

6. A timekeeper will notify each speaker when her two minutes are up.

### MOBILE CHAIRMEN FOR CONVENTION

General Convention Chairman—Mrs. B. B. Kimbrough.

Co-Chairman—Mrs. Dixon Meyers.

Registration—Mrs. Frank England.

Hospitality—Mrs. Marshall Eskridge.

Decorations—Mrs. Claude Brown.

Transportation—Mrs. A. D. Henderson.

Courtesy—Mrs. William Baston.

Favors—Mrs. W. J. Neeley.

Publicity—Mrs. Claude Warren.

Mrs. C. D. Terry.

Mrs. Dan Burke.

Entertainment—Mrs. Samuel P. Marshall.

Credentials—Mrs. Frank England.

Registration—Mrs. Frank England.

Exhibits—Mrs. William Fonde'.

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**Bed Rest Suggested for Heart Victims**—Prolonged bed rest has been revived as a means of treating persons suffering persistently enlarged hearts.

Drs. George E. Burch and John J. Walsh of New Orleans wrote in the January 16 Journal of the American Medical Association that new drugs have been so successful in treating many heart ailments that "continued bed rest is greatly neglected, even in patients with rheumatic heart disease."

They said preliminary findings showed that strict bed rest for periods up to one year produced "extremely promising results" among patients suffering nonrheumatic degeneration of the heart's muscle tissue and enlargement of the heart.

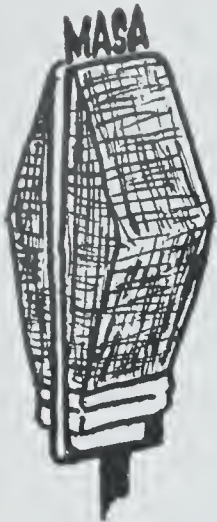
"Our concern has been principally directed to those typically young patients with severe, seemingly, irreversible cardiomegaly, who follow a progressively downhill course, dying . . . usually within 2 to 12 months after the onset of illness," the doctors said.

"As the patient progresses along the spectrum of decreasing cardiac reserve to the stage of irreversible cardiac dilatation and insufficiency, he reaches a point at which he becomes unresponsive to any and all forms of therapy. It is our contention that the application of long-term bed rest not only delays in time the attainment of the point of no return but may, in selected cases, postpone this catastrophe indefinitely."

The authors based their report on five patients. Three patients' hearts returned to normal size and the other two showed remarkable improvement after prolonged bed rest.

The doctors admitted that their approach presents many problems, such as finding an adequate number of hospital beds. However, they suggested that facilities available for the treatment of tuberculosis might be used.





## ASSOCIATION FORUM

### THE CRUELEST TAX

By

Thurman Sensing

Southern States Industrial Council

The cruelest tax in the United States falls most heavily upon Americans in the low income brackets. This tax is inflation. And boosted federal spending, which "liberals" insist has the purpose of aiding people of limited means, actually makes daily living much harder for these citizens.

If all the companies in the country were suddenly to jack up their prices without cause, the effect of it would not begin to compare with the effect of inflation created by federal spending.

The loss by inflation to the thrifty people of this nation is no less serious just because it is not directly felt and seen. During the dozen years up to 1933, depositors in the banks lost \$1.9 billion due to bank failures, and they complained bitterly. Due to the depreciating purchasing power of our currency, however, savers in six major groups—represented by United States saving bonds, time deposits in all banks, savings capital of savings and loan associations, life insurance in force, annuities in force, and social security trust and employment funds—have lost more than \$184 billion during the past twenty years. This was 97 times the loss in the banks, but the people involved, relatively few of them perhaps understanding it, seem to be highly complacent and apathetic about it.

For the man-in-the-street, inflation represents a kind of creeping paralysis. He can't juggle his investments to compensate for the higher cost of living; he hasn't got any in-

vestments except, possibly, a home and life insurance policy. And inflation makes maintenance of his home increasingly difficult and steadily cuts the value of his life insurance.

The high cost of living affects entire communities as well as individuals. Real estate taxes are rising as cities seek funds to carry on municipal housekeeping. Every item a municipality purchases is boosted in price by the pressure of inflation. The cost increase is passed on to the taxpayers. And so homeowners find it more and more expensive to maintain their homes and to get free of whatever indebtedness they may face. Money that a homeowner would use to discharge a mortgage must be turned over to the federal government.

As for the effect of inflation on insurance, Senator Willis Robertson (D-Va.), Chairman of the Senate Banking Committee, cited that only recently. "If a man 35 years of age is paying for an insurance policy," said Senator Robertson, "and he suffers 3 per cent inflation a year, by the time he is 70 years of age, the insurance has been used up. At 3 per cent a year, in 33 1/3 years, the insurance is gone." This is the way in which inflation wipes out individual savings.

Halting federal spending that gives rise to inflation requires down-the-line cooperation from individuals and communities aware of the danger in a devalued currency. The colossal spending isn't on a few selected items but on dozens of programs that many Americans take for granted.

Americans have come to expect federal handouts for urban renewal, city planning, farm subsidies, forest conservation, school construction, sewers, hospital buildings, vo-



cational rehabilitation, unemployment compensation. There is almost no end to the list of fields in which the federal government is handing out funds! Twenty-five years ago the total federal budget was \$4.6 billion. In fiscal 1960 the federal government will spend almost \$8 billion for interest alone on money borrowed by the government. It's incredible but true that out of every dollar the United States spends 10 cents goes toward paying interest on the national debt.

And the staggering debt is by no means a completely accurate indicator of the full extent of American indebtedness. The indirect obligations of the U. S. government amount to something like \$50 billion. These are obligations that result from back-door methods of federal financing and are not provided through appropriations.

As Senator Robertson has noted, "We have been quite free in underwriting obligations, as though lending our name were an easy way to put money in circulation without creating any real liability." The powerful political demands for easy housing loans will cause this sort of liability to mushroom.

Americans have refused to play the economic game by the rules. They are being penalized for thinking they can live high on the hog and never have to pay a bill. The way they are paying is through inflation—and history tells us that inflation has caused more human misery and suffering than anything short of war, famine and pestilence. We must once more return to a sound economy or suffer the consequences.

Write your Congressman!

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#### SOME ECONOMIC AND POLITICAL ASPECTS OF AGING

America is faced with a revolution in aging. Unlike most, this revolution has not taken place overnight, but has evolved gradually over the last half-century. The social, cultural and economic implications it poses, however, are equally as pressing.

In the year 1900, a little over four per cent of our population was over 65 years of

age. The average life span was 49. Today, thanks to advances in medical science and living standards, the average individual can expect 70 years of full and useful activity. We now have 15 million citizens, nearly one-tenth of our population, over the age of 65.

Taken numerically alone, this upward shift, or redistribution of our population, is sufficient cause for thoughtful consideration. This new era of aging, however, has, in addition, ushered in new needs—needs which have demanded and received unprecedented attention in recent years. As never before, increased interest, activity and programs are being directed toward the health, social, vocational and economic needs of the aging and the aged by a wide variety of groups.

The growth in the number of our senior citizens has also been marked by a widespread quickening of interest on the political front. It is obvious and understandable that elected officials should shape their actions to the direct, personal interest of all persons 45 or over in programs for the aged. Too, the potential of 15 million voters already past 65 has a natural political appeal to any politician. The danger here is that a program for the aging may be dictated on the basis of political expediency rather than intrinsic merit.

An excellent case in point is the proposed H. R. 4700. The Forand Bill, originally introduced in 1958, essentially would provide for the purchase of hospital, medical and surgical services for persons over 65, to be paid for by increased Social Security deductions from the paychecks of all workers. H. R. 4700 rests on the basic premise that the aged, as a group, have such a special financial position that special provision is required to meet their health and other needs. It also assumes an inability on the part of voluntary mechanisms, state level approaches, and community resources to meet these needs.

Although there are many reasons why the Forand proposal could be labeled "bad medicine," it nevertheless suggests a closer examination of just how "special" the aging are in regard to their ability to purchase



health care, or any other commodity, for that matter.

Without laboring the point, it should be emphasized at the outset that the great majority of people 65 and over are well, and that activities designed to help them preserve this health status should, therefore, be the real priority in any "program" for the aging. This does not, however, deemphasize the importance of adequate health care, or the older person's ability to pay for such care when it is needed.

It should also be remembered that in a true picture of financial status, income and assets should be related to all needs, not just health needs, as far as they can be defined. A young married man with three children has different financial needs and far greater ones in some areas than would an elderly, retired couple with no dependents. Given the same income, the young man might be unable to add to his assets, while the elderly couple might not only add to their assets but even achieve a higher standard of living.

A fact often quoted by those who advocate government intervention is that some 60 per cent of the aged, as a total group, have a yearly income of less than \$1,000. It might be pointed out in passing that nearly 50 per cent of the total population from 14 to 65 years also falls into this category. Such comparisons do not, however, give a clear picture of the true financial status of those 65 and over.

There are 15.4 million Americans 65 years of age or older. Of this group, some four million are in full-time employment or the wives of employed persons. Census Bureau data state that year-round, full-time male workers of 65 and over earn an average of \$3,427 per year. This is interesting to compare with the similar figure for workers in the 20-24 age bracket of \$3,563. It would seem that the four million employed aged males and their wives are basically paid no more poorly than the full-time younger male worker just starting out. Yet in terms of family size, assets and the like, the younger worker

generally has greater needs than his older counterpart.

To these four million of our aged group, then, the term "special financial position" in no way applies.

At the other end of the scale are some 2.5 million persons over 65 who are receiving public assistance. This group likely has very little, if any, private income, and little in the way of assets. The costs of their health care, food, shelter and other basic needs are met more or less satisfactorily by organized state and local welfare programs, with specified financial assistance from the Federal Bureau of Public Assistance.

It becomes increasingly clear that the group we need to take a closer look at, in terms of needs vs. financial resources, are the retired aged who are *not* receiving public assistance. As a matter of fact, it is just this group which the proponents of Forand legislation claim are caught in a so-called "no-man's land" between the ultra-poor, who are provided for by charity, and the wealthy, who are able to pay for anything they may need.

Is this claim of present and future crisis valid?

Exact figures on the average or median income of retired aged not receiving public assistance are apparently unavailable. There are, however, certain data which provide a fair indication of the financial situation in this group. The recent national income survey of Old Age and Survivor's Insurance beneficiaries, conducted by the Department of Health, Education and Welfare, excluded by definition all those aged earning more than \$1,200 per year, and thus virtually all of the relatively high-income aged workers in full-time employment. The OASI data yield an annual median income of \$2,190 for aged beneficiary couples, and of \$1,145 for single retired workers.

The difference between the reported income of some OASI beneficiaries and the eligibility limit of \$1,200 per year in earnings is partly made up for by the fact that some two million aged are receiving veteran's sur-



vivor's or other government pensions and over one million, some type of private pension. It is also a partial reflection of the relatively favorable asset position of this group. (Forty per cent of all aged have at least \$2,000 worth of liquid assets—savings bonds, savings accounts and checking accounts—compared with 21 per cent of the total population. Seventy per cent of the aged beneficiary couples own homes, and the great majority of these are mortgage-free.)

To what extent, then, is this present group of retired aged able to pay for its needs, particularly its health needs? About 43 per cent of all persons over 65 have some type of private health insurance, which they pay for out of current income. Reliable estimates have predicted that 80 per cent of persons over 65 who need and want voluntary health insurance will have such coverage by 1965. Complete data on what portion of these insured persons are retired are not available. There are, however, several grounds for believing that the larger percentage of persons with \$2,000 or less annual income who have health insurance are over 65.

The Bureau of Labor Statistics' minimum budget for elderly couples was updated in 1956 to \$2,050 for New York City, and to \$1,950 for Buffalo, New York. This budget includes an allowance for the paying of health insurance premiums. The current median incomes of retired OASI couples are somewhat above that figure.

The words "median income," of course, indicate that there are as many above as below the figures quoted. These income figures do emphasize, however, that the retired aged do not occupy a unique financial position in our society any more than say, the Negro, or women—two groups which also have a consistently lower-than-average income pattern.

*The aged represent a special case only in that all individuals, if they live long enough, will themselves become old.*

This accounts for the enormous political appeal of proposals such as H. R. 4700, and for much of the urgency being brought to bear toward its passage.

If this urgency holds sway, it would mean adopting a permanent and rigid program to solve what is essentially a temporary problem. The continuing expansion of voluntary health insurance coverage among all age groups by both Blue Cross-Blue Shield and commercial carriers, the anticipated growth in assets of private pension plans from \$33 billion to \$77 billion by 1965, the almost universal coverage of OASI and the continually growing real national income all point to a time in the near future when the overwhelming majority of our senior citizens will be, if they are not already, out of the category of those unable to pay for their needs, and will arrive at the age of 65 with a sound financial footing for continued full living.

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#### HEART MONTH AND YOUR HEART ASSOCIATION

By

Walter B. Frommeyer, Jr., M. D.  
President, Alabama Heart Assn., Inc.

Throughout this month you will frequently see the phrase "Heart Disease—Your #1 Enemy; HEART FUND—Your #1 Defense." This is the slogan of the 1960 HEART FUND conducted by the American Heart Association, and its affiliates such as the Alabama Heart Association. You are all familiar with the broad, over-all program of the Heart Association—the treatment, prevention, and—whenever possible—cure of heart and circulatory diseases. But, perhaps, you would be interested in a closer look at the workings of the Heart Association; and the ways in which you as a physician are affected.

The American Heart Association is the only voluntary health agency in the United States devoting all its energies to the reduction of premature death and disability caused by the many forms of heart and blood vessel disease. It is "voluntary" because its members are private citizens—both lay and professional—in many walks of life who have dedicated themselves to the fight against heart disease.

The American Heart Association was originally formed as a professional society by a group of cardiologists and research scientists in 1924. In 1948 it had grown to the point



that it was reorganized and incorporated as a national non-profit voluntary health agency. Under its new set-up, the American Heart Association offered charters to affiliated state or regional associations in the United States. Its membership now totals 55 affiliates, including the two new states of Hawaii and Alaska, and Puerto Rico.

The Alabama charter was granted in 1949, the year in which Alabama Heart Association was incorporated under Alabama laws as a "non-profit" health agency. It was formed by a group of 30 doctors from various sections of Alabama, all interested in the problems of the cardiac, led by Dr. Roger D. Baker, now of Duke University. At that time he was Chairman of the Department of Pathology at the Medical College of Alabama. From this group of 30, the membership has grown to a present total of 233, two-thirds of whom are physicians. Being a voting member of the Alabama Heart Association, one automatically becomes a voting member of the American Heart Association, and is entitled to hold office in either or both groups. One becomes a member by applying to the Alabama Heart Association at its state office in Birmingham. There are no dues, and membership is open to both lay and professional persons. However, by applying for membership in the Alabama Heart Association the applicant indicates his interest in cardiovascular problems and his willingness to serve on committees and the Board when asked. The physician members of the Alabama Heart Association receive free, these publications from the Association: *Modern Concepts of Cardiovascular Disease*, *The Heart Bulletin*, *Heart Research Newsletter*, and the *American Heart Quarterly*. In addition, his membership entitles him to admittance to all scientific meetings of both state and national Heart Associations without registration fee.

The Board of Trustees of the Alabama Heart Association is the policy making body. It functions either directly or through its Executive Committee—the arm of the Board for conducting the business and general affairs of the Association. The Board is com-

posed of 24 regular members elected each year in rotation for three year terms by the general membership. In addition there are two representatives from each council in the state, elected by the council for a one-year term. The Executive Committee is comprised of officers of the Board, plus two additional Board members elected annually by the Board.

The national association is governed by an assembly which is composed of representatives from all affiliates, the number being based on population, and representatives from the Scientific Councils. This assembly elects the officers and the Board, and, through the Board, establishes policies for the Association, and carries on its business. Each of the Scientific Councils of the national association concerns itself with a special aspect of cardiovascular disease and knowledge, for example: the Councils on High Blood Pressure, Clinical Cardiology, Circulation, Cardiovascular Surgery, Basic Science, etc. Then there's the Council on Community Service and Education and the Council on Rheumatic Fever and Congenital Heart Disease.

Heart Associations are "voluntary" organizations also in the fact that they are supported completely from the freely given cooperation and financial support of the general public. Their income comes primarily from the Heart Fund Campaign held in February of each year, and from bequests, memorials, and other similar methods of donation. Heart Associations do not join United Funds and in Alabama no unit of Alabama Heart is a member of or supported by any United Fund. Each affiliate sends 25% of its divisible annual receipts to the national association. It is important to note that not less than one half of this sum paid to national *must* be invested in cardiovascular research throughout the nation. It often happens, and Alabama serves as a good example, that a sum larger than the 25% sent from the affiliate returns to the state in cardiovascular research from the national organization.

Quite naturally, the primary interest of the Heart Association is on cardiovascular research. This is supplemented by programs



of education—both to lay people and the medical and paramedical professions, and community service in the cardiovascular field.

Since its foundation in 1949, and including the current 1959-60 awards, the Alabama Heart Association has contributed more than \$320,680 to cardiovascular research. In 1959 the Association contributed \$80,849. Of this amount, \$22,901 went to national research. A total of \$57,948 was made available to researchers here in Alabama. A breakdown of that amount would read as follows:

A \$5,000 Cardiovascular Fellowship was awarded to Robert H. Dudley, M. D., of the Medical College of Alabama for "Studies in Renal Physiology—Quantitation of Renal Work."

Cardiovascular Grants-in-Aid currently supported are—

To W. Sterling Edwards, III, M. D., Medical College of Alabama—for "Further Development of Vascular Prosthesis, 1—Arterial Grafts, 2—Aortic Valve Replacement, 3—Intra-Cardiac Patches" ..... \$10,800

To Leland C. Clark, M. D., Medical College of Alabama—for "Development of an Extra-Corporal Pump for Infants" ..... 9,000

To Lloyd L. Hefner, M. D., Medical College of Alabama—for "Further Study of Vibratory Characteristics of the Human Body, of Movements, Size and Mural Thickness of the Human Heart, Utilizing the Principle of Sonar" 8,550

To Rex Perkins, M. D., Medical College of Alabama—for "Altered Dynamics of Acute Mitral Insufficiency" ..... 4,500

To H. V. Murdaugh, Jr., M. D., Medical College of Alabama—for "Studies of Renal Tubular Function" ..... 7,236

and

"Study of Volume Receptors in

the Harbor Seal (Phocavitulina)" ..... 2,322

A special grant to T. R. Harrison, M. D., Medical College of Alabama, for Cardiovascular Research, made possible by "Claude Dorsey" Memorial Funds ..... 640

Also, a total of \$9,900 was appropriated to the Association's Research Reserve Fund. The American Heart Association and its affiliates supported cardiovascular research in the fiscal year 1958-59 to the tune of \$8,500,000. These allocations and the sum total channelled into scientific research by the Association and its affiliates since 1949 now stand at well over \$40,000,000.

It would be an ideal situation to use funds for research in the locality in which they were raised. But, as we physicians know, not every community or region is equipped with the personnel, physical plant and facilities for carrying on research activities. It is therefore obvious that these funds must be diverted to other local regions by the national association for the research program. These funds are used to recruit more investigators and train them. It pays the salaries of the investigators so they will not be detracted or drawn away to other fields of endeavor. It is used to maintain laboratories that are demonstrating their ability to produce new information. Expensive equipment so necessary to the study of these disorders must be bought. And the funds are used to facilitate the development of newly acquired knowledge for the earliest possible translation to benefit more patients.

While research is the primary aim of the Heart Associations, other activities must not be neglected. What is the benefit of new knowledge from research if it is not disseminated to physicians and patients? This brings into focus the Heart Association's programs of education and community service.

To keep them abreast of the extensive developments in cardiovascular medicine, the Associations foster a broad program directed toward the physician. Already mentioned are three of the scientific publications from



the Association. Physicians may also subscribe to *Circulation*, a monthly journal dealing with the heart and circulatory system, for an annual subscription rate of \$14.00. Also, there is *Circulation Research*, a bi-monthly journal which deals with the realm of research available at an annual subscription rate of \$9.00. A major aspect of this program is the annual scientific session of both national and state Heart Associations. The Alabama Heart Association holds annual sessions in both North and South Alabama, and the American Heart Association also conducts a four-day national scientific session once a year. These sessions have long been recognized as most important forums for the presentation of new developments in the cardiovascular field. (Alabama Heart meetings this year are: February 2, 1960 in Decatur, Alabama and June 25, 1960 at Point Clear, Alabama. The 1960 American Heart meeting is scheduled for October 21-24, 1960 in St. Louis, Mo.)

While the physician plays the central role in the struggle to save lives, his efforts are greatly aided by the skills of dedicated workers in allied fields, such as nurses, medical social workers, dietitians, vocational counsellors, teachers and others. For these groups, also, the Heart Associations—primarily the state organizations—develop activities that will link them more closely to the fight against cardiovascular disease.

The program of education for the lay public is conducted through many different channels, using a variety of media to reach all sections of population. One of these channels is the *American Heart*, a quarterly progress report to the general public on significant advances in all phases of the heart program. Another is *The Heart Research Newsletter*, also issued quarterly and directed to persons especially interested in cardiovascular research.

The Alabama Heart Association has available, free, a wide variety of publications, covering almost any aspect of cardiovascular disease, for professional as well as lay use. During the year thousands of these publications are distributed to interested parties.

The Alabama Heart Association is now answering annually over 15,000 inquiries for material and information. The Association also has a film library which is available to organizations such as schools, clubs, societies, television stations and others concerned with the varied aspects of cardiovascular disease. Last, but certainly not least, is the dissemination of knowledge in the various media such as newspapers, radio, television, magazines, etc. This program of education has contributed greatly to the dispelling of the fears once associated with problems of the heart and circulatory system.

The program of community service has two major objectives: (1) to develop and improve facilities that will assist the physician in the total management of the cardiac patient; (2) to help the patient and his family, through organized community effort, to cope with the many personal, social and economic problems caused by cardiac disease. A wide program of service—primarily through the work evaluation unit—has helped thousands of cardiacs in industry and agriculture, as well as home makers, young people and the aged. The work evaluation unit is made up of a team of specialists usually comprised of a cardiologist, vocational counsellor and social worker, who assess the heart patient's suitability for gainful employment or reemployment in terms of his vocational, physical, mental and emotional fitness. Although such a work evaluation unit does not now exist in Alabama, they have been most successful in other parts of the country.

In the preceding discussion I have tried to explain the workings of the Alabama Heart Association, what it is doing and what it is attempting to do, and how its operation affects the physician in Alabama. If I may, I would like to inject a personal note in my capacity as President of the Alabama Heart Association.

The Heart Association—both nationally and here in Alabama—is fairly young. Yet in the few short years of existence a great deal of good has been done. Great strides have been made in the study of cardiovascular disease. Great strides have been made in



the education of the general public on the subject of cardiovascular disease. And, it is pleasant to contemplate, the future holds promise of even greater progress. I am pleased to be a part of the Alabama Heart Association—to have seen it grow through the years and to look forward to its further growth.

As stated before, the heart of the Heart Association is the physician. Through his active participation in such a health agency he exerts an influence not only locally but on the course of medicine in the nation as a whole. It's a simple fact that the Alabama Heart Association is primarily a group of physicians. And the national organization is nothing more than a composite of several similar organizations. Thus, if the great strides mentioned above are to be realized, we must depend on the physician and his active participation. We invite you to consider what the Alabama Heart Association can do for you and what you can contribute to it. We invite your membership and seek your support.

(Editor's note: The address of the Alabama Heart Association is 2912 7th Avenue South, Birmingham 5, Alabama.)

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Both the incidence and the death rate from rheumatic fever, a major cause of heart damage in youngsters, have dropped steadily in the past few decades, according to *Patterns of Disease*, a Parke, Davis & Company publication for the medical profession.

Statistics cited in the report show that the death rate from the disease has decreased from 7 per 100,000 Americans in 1910 to only 1 in every 200,000 in 1957.

However, rheumatic fever is still a widespread and frequently serious problem. An estimated 2,000,000 persons in this country have had or will develop during their life span an attack of rheumatic fever—and probably half of these will have residual heart damage as a result of the disease.

When is rheumatic fever most likely to strike? Between the ages of 5 and 12.

More than 50 per cent of all initial attacks occur before the age of 15, the report states. Essentially a childhood illness, rheumatic fever and resultant heart disease is the fifth leading cause of death among children of 5 to 14. About 1 in every 100 children between the ages of 5 and 19 has had rheumatic fever.

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**Need for Rehabilitation Facilities to Increase**—A young hospital administrator suffered a spinal in-

jury resulting in paralysis of his arms and legs.

At first, he was completely dependent on others. But through an intensive course of rehabilitation, he learned to feed himself, shave, write, use a dictaphone and perform other hand activities with the aid of simple mechanical devices. He now is able to operate an electric wheel chair which provides him a large measure of independence and mobility. And, even though his disability remains, he will return to his former type of work.

A 42-year-old mechanic, whose legs were amputated following an accident, also has returned to a bench-type mechanic's job. Through rehabilitation, he learned to walk on artificial legs. He lives at home, drives a hand-controlled car to and from work, and is completely independent.

These cases, described in the January 16 Journal of the American Medical Association, are but 2 of the 30 million persons who require long-term care, according to Dr. Louis B. Newman, Chicago, president of the American Academy of Physical Medicine and Rehabilitation. They demonstrate how rehabilitation procedures can return the sick and injured to productive lives.

"The problem of the rehabilitation and care of the long-term patient is of tremendous magnitude," Dr. Newman said. "Both the increase in population and the increase in the human life span bring us face to face with the realization that the number of persons with illness and injury will parallel these increases."

"We must be fully aware of and quickly correct an old and, at times, persistent notion that long-term or chronically ill persons are all in the older age bracket. As a matter of fact, about 16 per cent of persons with chronic disease are under 35 years of age.

"The increased incidence of heart disease, the yearly increase in the number of cancer deaths, the rising number of severe disabilities from accidents . . . the alarming rise in the incidence of mental disorders, the steadily rising number of disabilities resulting from degenerative diseases, and blindness and impaired or loss of hearing associated with the aging and the aged—all contribute toward the large segment of the population that needs prolonged care.

"It is not a one-man job and must be squarely faced by all federal, state, and community institutions and agencies whose programs should be actively coordinated and integrated . . . to achieve the greatest measure of success.

"There must be sufficient hospitals, rehabilitation services and centers, nursing and convalescent homes, sheltered workshops, homes for the aged, and adequate numbers of properly trained professional personnel to handle this tremendous patient load."

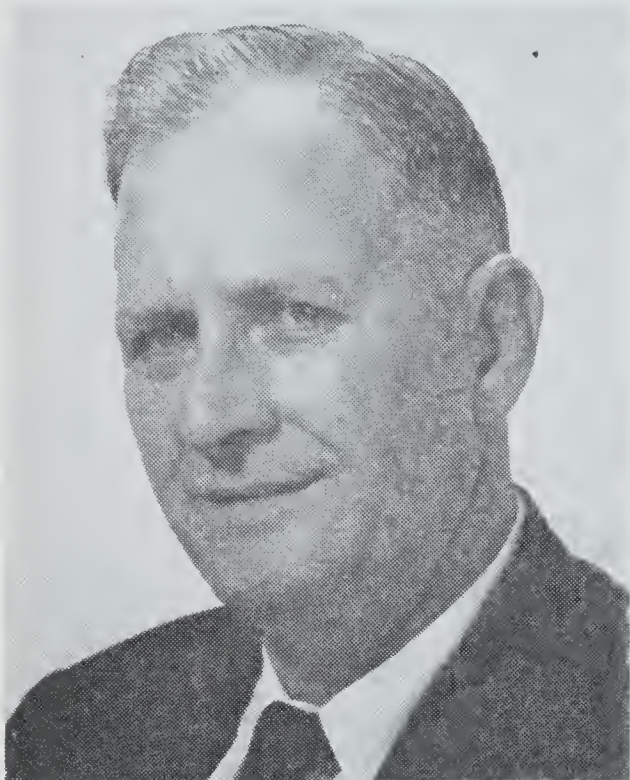
Nursing homes should be equipped for continued maintenance activities to prevent the partially disabled patient from deteriorating eventually to total dependence, Dr. Newman said.

"Life is being prolonged, but it should also be enriched," he said.





# around the state



**ELEVATED TO PRESIDENT—**Dr. Winston A. Edwards took the gavel as the 12th president of the Alabama Academy of General Practice on Jan. 21 at the Academy's 20th postgraduate seminar in Birmingham.



**WINS CITATION—**Miss Julia Holley, Birmingham News reporter, was awarded the Jefferson County Medical Society Citation for Public Service in recognition of her medical news reporting. Shown above with Miss Holley are (left to right) Drs. Garber Galbraith, Hughes Kennedy Jr. and Joe Campbell.



**HEART MONTH—**Dr. Walter B. Frommeyer, Jr., president of the Alabama Heart Association, requests the support of the profession in the current Heart Fund Drive.

**AGING COUNCIL—**Working closely with MASA's Committee on Aging is the newly organized Joint Council To Improve The Health Care Of The Aged. Pictured below are Dr. Max Brantley and Dr. Leo P. Geary of the Alabama Dental Association; Council Chairman J. J. Kirschenfeld, MASA; Dr. Thomas W. Jones, ADA; and Miss Catherine Corley, Alabama Nurses' Association.



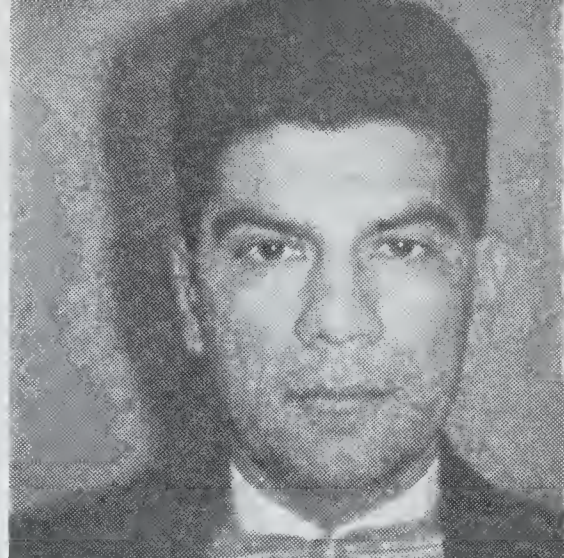


GILMORE



MARSHALL

MURPHEY



CELANO

WOOL  
FOLEY

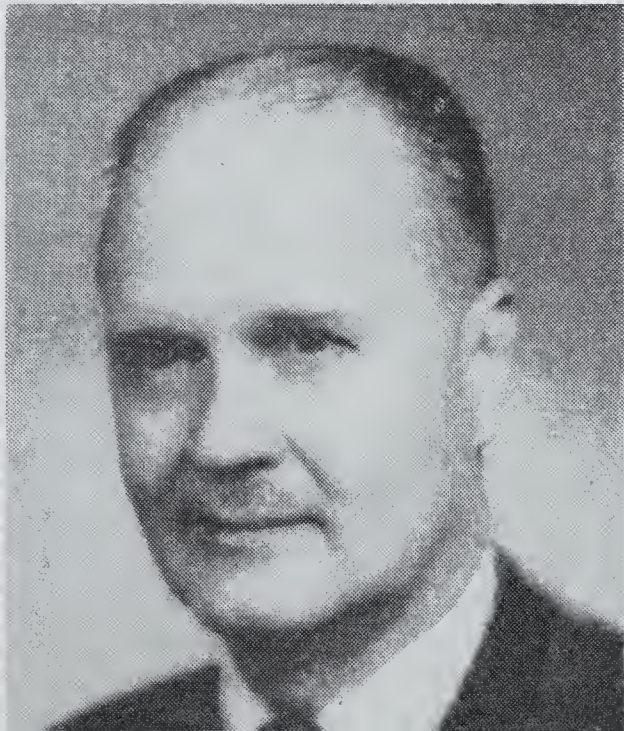


**STATE SURGEONS TO MEET**—The Alabama Chapter of the American College of Surgeons will hold its ninth annual scientific meeting at the Grand Hotel in Point Clear, Alabama, on Feb. 19-20. Associated Press' Pulitzer Prize winning reporter, Eddie Gilmore of Selma, will be guest banquet speaker. Scientific speakers will include (left to right) Drs. S. Samuel Marshall, Mobile; Francis Murphey, Memphis; Eugene Celano, Mobile; Jack Wool, Montgomery; and Col. Francis E. Foley, Maxwell Air Force Base.

SANDERS



LEWIS



**O & O SPEAKERS**—Meeting concurrently with the American College of Surgeons the Alabama Academy of Ophthalmology and Otolaryngology will hear Dr. Sam Sanders and Dr. Phillip M. Lewis, both of Memphis, discuss glaucoma surgery and septal surgical problems.





## MEDICAL CENTER NEWS



### DRS. DON OLSON AND ROBERT ROACH TO HEAD HANDICAPPED CHILDREN CONFERENCE

The second annual Alabama Conference on Handicapped Children, sponsored by The Nemours Foundation and the Alabama State Department of Education, was held at the Medical Center on February 11 and 12.

The purpose of last year's conference was to survey the present facilities and services available to the handicapped in Alabama, to recommend ways and means of coordinating existing services in order to serve the handicapped more efficiently and effectively, to determine the elements that constitute an adequate program of education and treatment of the handicapped, and to list the additional services and facilities needed to serve the handicapped more adequately. This year's conference stressed the problems of speech and hearing disorders.

Among the roster of outstanding speakers for the conference were Dr. Dominick Barbara, New York, psychoanalyst and author of *Stuttering*; Dr. Duane Spriestersbach, professor of speech pathology and audiology, State University of Iowa, and director of NIH research project on cleft palate speech; Dr. Richard Silverman, director of the Central Institute for the Deaf and professor of audiology, Washington University Graduate

School and Medical School; Miss Arlette Harwood, executive director of United Cerebral Palsy; Miss Janet Smaltz, director of special education, North Dakota Department of Public Instruction; and Dr. Stanley Ainsworth, president-elect of the American Speech and Hearing Association and chairman of the University of Georgia department of speech correction.

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### NEW RESEARCH GRANTS

Research grants totaling over 158 thousand dollars were awarded to the Medical Center recently.

The National Institutes of Health granted Dr. Sidney Page Kent the sum of \$29,544 (\$10,538 the first year, with commitment for \$9,503 each year for two additional years) for research in fluorescent antibody demonstration of tissue mucins; and gave Dr. Robert W. Longley a grant of \$15,180 (\$7,590 the first year, with commitment for an equal amount the second year) for research in correlation of SH groups with glycolytic activity; Dr. Basil I. Hirschowitz received \$105,000 (\$25,000 the first year, with commitment for \$20,000 each year for four additional years) for study of secretory mechanisms in normal and cancerous stomachs; and Dr. John B. Boyette was granted a postdoctoral heart research fellowship for study of iron metabolism.

For hepatitis research, Dr. Basil I. Hirschowitz received a Merck, Sharp and Dohme grant of \$3,500.

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### SURGERY DEPARTMENT GETS FOUR NEW FACULTY MEMBERS

Four men have joined the voluntary staff of the department of surgery with the rank of instructor, according to Dr. Champ Lyons, chairman.

Dr. Bluitt Landers, a 1954 graduate of this





LANDERS



SMITH



WALLER



WINGO

Medical College, interned at Lloyd Noland and did residencies at Newell Hospital in Chattanooga (surgery), Philadelphia General Hospital (neurology and neuropathology), and here in neurosurgery. He has just begun an assignment on neurosurgery service at the Veterans Administration Hospital.

A graduate of Tulane University School of Medicine, Dr. Lamar M. C. Smith, Jr., was appointed to teach general surgery. Dr. Smith did his internship and a three-year residency in general surgery at Southern Pacific General Hospital, San Francisco. He served another three-year surgical residency at the VA Hospital in Columbia, S. C. In practice in Birmingham, Dr. Smith is a diplomate of the American Board of Surgery.

Dr. William Chambers Waller and Dr. Douglass H. Wingo will teach urology. Dr. Waller, who lives in Montgomery, received his M. D. degree at Columbia University. He interned and served a residency at the Roosevelt Hospital in New York City.

Dr. Wingo, a 1950 graduate of this Medical College, interned here and did residencies here and at Carraway Methodist Hospital.

#### RECENT ACADEMIC PROMOTIONS

Academic promotions given during recent months elevated 18 members of the Medical

College. Names of those promoted, by department, and their new ranks are: Medicine—Dr. Howard L. Holley, professor; Dr. Charles E. Butterworth, Jr., assistant professor; Dr. James A. Pittman, Jr., assistant professor; Dr. William B. Jones, assistant professor; and Dr. H. Duke Thomas, assistant professor. Obstetrics and Gynecology—Dr. Robert V. Barnett, assistant professor; and Dr. Eugene H. Howe, assistant professor. Ophthalmology—Dr. Stephen Kelly, assistant professor. Pediatrics—Dr. Sarah F. Davis, professor. Psychiatry—Dr. Frank Joseph Nuckols, assistant professor. Radiology—Dr. Edgar Branyon, associate professor; and Dr. Alvaro Ronderos, assistant professor. Surgery—Dr. Samuel Upchurch, associate professor and chief of maxillofacial and plastic surgery; Dr. T. Brannon Hubbard, Jr., associate professor; Dr. Stanley Graham, associate professor; Dr. Francis Marzoni, assistant professor; Dr. Paul Salter, Jr., associate professor; and Dr. Donald Sweeney, associate professor.

#### NEWCOMERS IN RESEARCH

Four new research assistants have joined the Medical Center staff recently. They are Donald Baugh and Heinz Kollig of the arthritis and rheumatism research laboratory, Dr. Heriberto Cueto of the biochemistry department, and Robert Denney of the pulmonary research laboratory.

A local man, Mr. Baugh received a degree in biology at Birmingham-Southern College. He taught high school science before entering research.

Mr. Kollig, recently arrived from Germany, received his degree as laborant in microchemistry at the Chemical Institute of Bonn, Germany.

Dr. Cueto, a graduate dentist from Argentina, has been in the United States for more than a year. He formerly worked at the Eastman Dental Dispensary in Rochester, N. Y. Now doing dental research in biochemistry, he plans to enter the School of Dentistry in the fall to complete American requirements for the D. M. D.

Mr. Denney, a graduate in zoology from



Wheaton College of Illinois, has studied physics at Howard College here. He came to the Center this winter to work on a research project directed toward testing the mechanical properties of the lungs.

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DR. HILL GETS SCHOLARSHIP

Dr. Samuel Richardson Hill, Jr., has been awarded the Willard O. Thompson Memorial Traveling Scholarship in Endocrinology for 1960.

As associate professor of medicine and head of the department's division of endocrinology and metabolism, Dr. Hill will use the scholarship to help meet expenses of a proposed trip to Europe next summer. He plans to attend the International Goiter and Endocrine Association meeting, visiting medical institutions in London, Leiden, and Stockholm.

The Willard O. Thompson scholarship is given annually to an outstanding scientist in the field of endocrinology and metabolism by the American College of Physicians.

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NEW HOSPITAL EQUIPMENT  
SPEEDS X-RAY PROCESSING

Improved service to patients requiring x-rays has been effected through the installation of an automatic x-ray processing system at University Hospital.

Earlier interpretation and diagnosis are possible with this equipment, which delivers top-quality radiographs in approximately six minutes—dry and ready for interpretation by the radiologist. Film processing takes close to an hour when done by hand.

The new equipment, a Kodak X-Omat Processor, was installed at a cost of \$30,000.

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DR. WILLIAM DAMESHEK  
KRACKE LECTURER

Dr. William Dameshek, director of the Blood Research Laboratories at the New England Center Hospital and Professor of Medicine at Tufts University School of Medicine, was guest of the Medical Center the week of February 1.

Dr. Dameshek, an internationally renowned



hematologist and Editor-in-Chief of *Blood*, the *Journal of Hematology*, visited the Medical Center for the primary purpose of delivering the 8th annual Roy Rachford Kracke Memorial Lecture on February 4. This lecture is given before the faculty, student body and interested public in honor of Dr. Kracke, who was the first Dean of the four-year Medical College of Alabama in Birmingham. Previous distinguished lecturers have included Dr. Hans Selye, Dr. Maxwell M. Winterrobe, and Dr. George Thorn, to mention but a few such lecturers. The Kracke Memorial Lecture is sponsored by the Phi Beta Pi Medical Fraternity.

In addition, Dr. Dameshek spoke before the Jefferson County Medical Society on February 1 on "Polycythemia and Related Disorders."

The visitor participated in the department of medicine's grand rounds the morning of February 2 and that afternoon he conducted a clinical seminar on patients with hematologic disorders. On February 4 he spoke on "Recent Advances in the Field of Hematology."

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THYROID SYMPOSIUM  
HELD JAN. 15-16

A number of visiting speakers, including an internationally-known British scientist, took part in a thyroid symposium here on January 15-16.

Dr. Rosalind Pitt-Rivers, a fellow of the



Royal Society and member of the National Institute for Medical Research, London, gave the keynote address. Dr. Pitt-Rivers is one of the discoverers of a highly active form of thyroid hormone—triiodothyronine, identified in 1952. She has also conducted investigations in production of derivatives and analogues of thyroxin and their biological activity and in the biochemical effects of certain thyroid-blocking drugs.

Papers were also given by Dr. J. H. U. Brown, Emory University School of Medicine; Dr. Melvin J. Fregly, University of Florida College of Medicine; Dr. Earl Frieden, Florida State University department of chemistry; Dr. Chalmers L. Gemmill, University of Virginia Medical School; Dr. Nicholas S. Halmi, State University of Iowa; Dr. Harry J. Lipner, Florida State University division of physiology; Dr. Lester Van Middlesworth, University of Tennessee College of Medicine; Dr. Jane H. Park, Vanderbilt University School of Medicine; and Dr. Jan Wolff, National Institutes of Health, according to Dr. Samuel B. Barker, chairman of the symposium.

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ALABAMA AGP  
ANNUAL MEETING  
HELD JAN. 20-21

Talks on alcoholism and on the diagnostic and therapeutic use of radioisotopes highlighted the Alabama Academy of General Practice meeting last month.

The two-day program was held January 20-21, with scientific sessions in the University Hospital Auditorium and a banquet at the Tutwiler Hotel. Senior medical students and their wives were guests of honor at the banquet. Industrialist Hugh Comer of Sylacauga and Chairman of the Board of Avondale Mills was the dinner speaker.

Several Medical Center faculty members were on the program. They included Drs. Thomas M. Boulware, professor of clinical obstetrics; Arthur I. Chenoweth, associate professor of surgery; Arthur Freeman, associate professor of clinical medicine; Raymond Sherer, assistant professor of dermatology and syphilology; John W. Simpson,

associate professor of pediatrics; James Sussex, professor and chairman of psychiatry; James Alto Ward, instructor in surgery; and William Warrick, assistant professor of urology.

Radioisotopes in medicine were discussed by Dr. George Hammill, chief of radiology at Maxwell Air Force Base. The talk on alcoholism was given by Dr. Vernelle Fox, nationally recognized authority in the field and Medical Director of the Georgia Commission on Alcoholism's Rehabilitation Center in Atlanta, Georgia.

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HEART FUND DRIVE  
LAUNCHED FEB. 1

The Alabama Heart Association launched its annual fund raising campaign on February 1 when Governor John Patterson lighted the Association's Flaming Heart Torch on the steps of the State Capitol in Montgomery. Among those present at the ceremony was Dr. Walter B. Frommeyer, Jr., professor and chairman of the department of medicine here and current president of the Alabama Heart Association. Richard Brooks, Montgomery attorney, and Bob Morrow of Alabama football fame are chairman and co-chairman, respectively, of the 1960 Heart Fund Drive.

In the past ten years the Alabama Heart Association has supported Medical Center investigators carrying on research on the heart and vascular system with grants totaling more than \$150,000.

Heart Sunday, February 28, will culminate activities of the fund drive, according to Dr. Frommeyer.

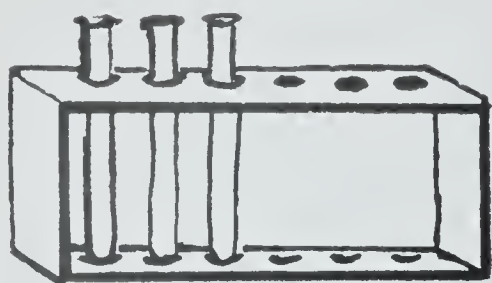
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Acute tonsillitis and other streptococcal infections play a major role in the onset of rheumatic fever, according to *Patterns of Disease*, a Parke, Davis and Company publication for the medical profession.

In one study quoted by *Patterns* of 563 servicemen with rheumatic fever, 85% had previous illness. Of these two-thirds were "highly suggestive of streptococcal etiology" just before the onset of the disease.

The report also points out that rheumatic fever appears to run in families. "If 1 child has rheumatic fever," *Patterns* states, "the probability of his siblings developing the disease is 1 in 4; if 1 parent also has the disease, probability may increase to 1 in 2."





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.

State Health Officer

### ACCIDENTAL POISONING FROM IRON MEDICATION

A recent bulletin from the National Clearinghouse for Poison Control Centers deals with the hazards of iron medication as related to accidental poisoning in young children. Three deaths attributed to accidental ingestion of iron medication were reported to the Clearinghouse during the period October 1958-October 1959 inclusive. During the same period there were four deaths due to ingestion of acetylsalicylic acid. Less than one per cent of non-fatal poisoning accidents reported to the Clearinghouse are due to iron ingestion while 20 per cent are due to aspirin.

As physicians, we have come to accept iron medication as routine therapy, seldom considering the possibility that such medication may be toxic if taken improperly. It is felt, therefore, that this possibility should be brought to your attention. Most of the discussion which follows was taken directly from the bulletin from the Clearinghouse for Poison Control Centers.

In the fatal poisoning cases involving iron medication, all three of the victims were under two years of age. Death occurred approximately 5 hours, 13 hours, and 72 hours after these children had ingested unknown amounts of iron tablets (believed to be ferrous sulfate in all three cases). Convulsions and coma were reported as manifestations occurring in addition to spontaneous vomiting in the child who lived for 72 hours. Symptoms noted in the child who died within 13 hours were spontaneous vomiting and diarrhea. In the third case, lavage was performed one hour following ingestion of the medication. More than an hour later, after

the child had been returned to his home, he began to breathe with difficulty and became cyanotic. Death followed shortly.

Clinically, three phases of iron poisoning are discernible. Symptoms may begin from 30 minutes to several hours following ingestion. In the initial phase, the direct corrosive action of iron salts on the gastric mucosa and later upon the intestinal mucosa is manifested by the occurrence of vomiting, hematemesis, abdominal pain and diarrhea associated with black stools. Dehydration and acidosis may occur depending upon the severity of the vomiting and diarrhea. Excess blood loss is not usually a problem. Nevertheless, shock, thought to be due to the corrosive effect on the gastrointestinal mucosa, or to the resultant excess absorption of iron into the circulation and formation of ferritin, which is probably identical with vaso-depressor material, may occur and terminate fatally.

The second phase is one of apparent recovery and well being. This phase may be short. The third phase, occurring one to two days after ingestion, is delayed collapse, manifested by coma, convulsions, shock and death. The mechanism for this recurrent phase has been ascribed to the metabolic effects of an increased serum iron concentration or to the presence of liver damage. (Postmortem examination may reveal hemorrhagic periportal zonal necrosis of the liver.)

The principal cause for the coagulation defect sometimes seen in acute iron intoxication has been suggested to be the result of a chemical change in fibrinogen causing a defective fibrin clot, as well as a prolongation of the coagulation time. Thrombocytopenia and hypoprothrombinemia are thought to play minor roles in the genesis of the coagulation defect.

Sequelae of acute iron poisoning may be



stenosis of the pylorus resulting from the corrosive action on and scarring of the gastric mucosa, and hepatic cirrhosis following necrosis of liver cells.

Since there is no physiologic excretion mechanism for iron, it is especially important to remove as much of the ingested iron as possible from the gastro-intestinal tract, and any iron complexes which may be circulating in the blood. Therefore, the stomach must be emptied following the ingestion of larger than therapeutic amounts of iron medication. This is probably best accomplished by the induction of emesis. A recent study suggests that induced emesis is more effective than gastric lavage in emptying the stomach. Furthermore, gastric lavage may be relatively ineffective in removing enteric-coated ferrous sulfate tablets from the stomach; many brands of these tablets are enteric-coated and do not dissolve in the stomach. In the third fatal case presented, enteric-coated tablets were found in the stomach at postmortem examination although gastric lavage had been performed one hour following ingestion of ferrous sulfate.

Prior to or concomitant with attempts to rid the stomach of iron medication, it is probably beneficial to administer phosphate-containing substances, or sodium bicarbonate. Phosphates and bicarbonate presumably exert a protective action by reacting with iron in the gastro-intestinal tract to form insoluble iron compounds. Administration of milk is recommended prior to induction of emesis. If performed, gastric lavage is probably useful for introducing mono- or disodium phosphate solution or sodium bicarbonate solution into the stomach. Some authors recommend both the induction of emesis and the institution of gastric lavage following ingestion of iron medication.

Removal of circulating iron or iron complexes from the bloodstream by British anti-lewisite (BAL) has proved disappointing. It is thought that the BAL-iron complex is more toxic than iron salts. The use of edathamil calcium-disodium (ca EDTA) seems more promising since iron is bound more strongly

to EDTA than is calcium. At present, it is impossible to assess the value of ca EDTA in the treatment of iron intoxication. This agent has been used too infrequently in the laboratory and at the bedside in iron poisoning to permit an evaluation. Some studies suggest that further trial therapy with ca EDTA is worth while.

Exchange transfusion is another method whereby circulating serum iron or iron complexes can be removed from the body. This procedure is relatively simple to perform and has been used in treatment of various types of poisoning, including iron poisoning. Unfortunately, again, it is difficult to evaluate the effectiveness of exchange transfusion because of lack of adequate data. The procedure seems to be effective in lowering serum iron concentrations.

Even if ca EDTA and exchange transfusions are effective in lowering serum iron concentrations, thus ameliorating the systemic effects of iron intoxication, the corrosive action on the gastro-intestinal tract must still be dealt with. Supportive and symptomatic treatment, including intravenous fluids and electrolytes for dehydration and acidosis, blood and plasma expanders for shock, and demulcents, such as milk or bismuth subcarbonate, is recommended. Physicians should not be lulled into a false sense of security because of low serum iron concentrations. These values give little information concerning the corrosive effect on the gastric mucous membranes.

How can accidental iron poisoning in children be prevented? Certainly the use of iron as a therapeutic agent is not to be questioned. Thus, parents using iron medication should be advised by the prescribing physician to make the medication as inaccessible to children as is possible. In one of the fatal cases, presumably the mother of the victim thought that the iron medication was inaccessible to him; the medication was on a high shelf in a cabinet. Yet the ferrous sulfate was not inaccessible to the victim's older brother who was able to climb and so obtained the tablets. If the medication had been stored in a locked cabinet or chest, this



fatality might have been prevented.

Physicians and pharmacists can cooperate by labeling every iron prescription with the words: "KEEP OUT OF THE REACH OF CHILDREN." The use of safety closures in the prevention of poisoning accidents involving medications has been commented upon by Arena. An effective safety closure should be instrumental in preventing some of these accidents. If the proper precautions had been taken, it is more than likely that this communication would have been a review of the literature rather than a presentation of case reports.

The bulletin from the Clearinghouse lists 23 references. Physicians who wish to receive a copy of this list may write to the Division of Health Education, State Health Department.

**New Antibiotic Proves Effective for Minor Infections**—Griseofulvin has been termed an effective means of treating superficial fungus infections of the skin.

Dr. C. H. McCuistion, Jr., Austin, Texas, dermatologist, writing in the December 19 issue of the Journal of the American Medical Association, said "griseofulvin is an effective antibiotic for superficial fungus infections and is safe in therapeutic doses."

Dr. McCuistion, assistant clinical professor of dermatology, Baylor University Postgraduate School of Medicine, reported on the use of griseofulvin in the control of ringworm infection of 28 children at the Austin State School for the mentally retarded and 4 private patients.

Treatment of the 29 patients suffering either ringworm of the scalp or ringworm of the body resulted in a cure in all but one case, he said.

The three patients with an infection of the finger nails and toe nails are still under treatment, he said, and the use of griseofulvin failed to cure one patient with an infection of the feet.

"No instance of intolerance to griseofulvin requiring reduction of the dosage or cessation of administration of the drug was encountered," Dr. McCuistion said.

Griseofulvin is a fermentation product of three species of penicillium, he said, and was isolated in 1939, the same year that the antibiotic effect of penicillin was discovered.

"Penicillium, the source of griseofulvin, emerged in 1959 as a still further boon to man," he said. "Of course, unheralded and unrecognized, this lowly mold has worked for man all along."

". . . like the sulfonamides and penicillin, griseofulvin was known many years before its value to man himself was appreciated. One wonders if perhaps a cure for cancer, tuberculosis, diabetes or mental illness is not now on the chemist's shelf."

BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

November 1959

Examinations for malaria.....	21
Examinations for diphtheria bacilli and Vincent's .....	530
Agglutination tests .....	439
Typhoid cultures (blood, feces and urine) ...	583
Brucella cultures .....	0
Examinations for intestinal parasites.....	2,514
Darkfield examinations .....	2
Serologic tests for syphilis (blood and spinal fluid) .....	20,530
Examinations for gonococci .....	1,582
Examinations for tubercle bacilli.....	3,077
Examinations for Negri bodies (smears & animal inoculations) .....	227
Water examinations.....	1,938
Milk and dairy products examinations .....	3,939
Miscellaneous examinations .....	3,982
Total 39,368	

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BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1959

	Oct.	Nov.	*E. E. Nov.
Typhoid and paratyphoid .....	10	4	2
Undulant fever.....	1	1	0
Meningitis .....	4	3	10
Scarlet fever.....	69	37	77
Whooping cough.....	23	35	54
Diphtheria .....	6	23	44
Tetanus .....	1	3	3
Tuberculosis .....	172	116	166
Tularemia .....	1	1	0
Amebic dysentery.....	3	1	1
Malaria .....	0	0	1
Influenza .....	15	136	111
Smallpox .....	0	0	0
Measles .....	31	44	73
Poliomyelitis .....	21	8	16
Encephalitis .....	6	3	1
Chickenpox .....	4	11	58
Typhus fever.....	0	1	1
Mumps .....	31	32	57
Cancer .....	665	493	441
Pellagra .....	0	0	0
Pneumonia .....	143	198	159
Syphilis .....	143	127	139
Chancroid .....	6	1	4
Gonorrhea .....	274	275	287
Rabies—Human cases.....	0	0	0
Positive animal heads .....	19	11	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.



BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS AND COMPARATIVE DATA, SEPTEMBER, 1959

Live Births Deaths Causes of Death	Number Registered During September, 1959			Rates* (Annual Basis)		
	Total	White	Non-White	1959	1958	1957
Live births.....	7706	4797	2909	29.1	29.9	30.3
Deaths .....	2123	1334	789	8.0	8.2	8.7
Fetal deaths .....	179	84	95	22.7	18.8	20.0
Infant deaths—						
under one month.....	155	71	84	20.1	19.0	22.5
under one year.....	197	86	111	25.6	26.2	29.0
Maternal deaths.....	7	2	5	8.9	8.3	7.5
Cause of death						
Tuberculosis, 001-019.....	23	11	12	8.7	14.9	9.6
Syphilis, 020-029.....	5	1	4	1.9	1.1	1.9
Dysentery, 045-048.....						1.2
Diphtheria, 055.....					0.4	
Whooping cough, 056.....	1		1	0.4		
Meningococcal infections, 057.....	2	1	1	0.8		1.2
Poliomyelitis, 080, 081.....	1		1	0.4		0.8
Measles, 085.....						
Malignant neoplasms, 140-205 .....	302	218	84	113.9	114.7	123.2
Diabetes mellitus, 260.....	29	18	11	10.9	13.3	8.9
Pellagra, 281.....					0.3	1.2
Vascular lesions of central nervous system, 330-334.....	307	179	128	115.8	108.6	113.2
Rheumatic fever, 400-402 .....	3	1	2	1.1	0.4	0.4
Diseases of the heart, 410-443.....	696	476	220	262.6	262.2	277.2
Hypertension with heart disease, 440-443.....	126	58	68	47.5	48.0	50.1
Diseases of the arteries, 450-456.....	45	31	14	17.0	16.0	12.7
Influenza, 480-483.....	1	1		0.4	1.1	2.7
Pneumonia, all forms, 490-493 .....	40	22	18	15.1	16.0	20.8
Bronchitis, 500-502.....	4	4		1.5	1.1	1.2
Appendicitis, 550-553.....	2	1	1	0.8	0.4	1.9
Intestinal obstruction and hernia, 560, 561, 570.....	7	1	6	2.6	5.7	6.9
Gastro-enteritis and colitis, under 2, 571.0 764.....	9	2	7	3.4	3.4	6.5
Cirrhosis of liver, 581.....	16	12	4	6.0	7.2	3.8
Diseases of pregnancy and childbirth, 640-689 .....	7	2	5	8.9	8.8	7.5
Congenital malformations, 750-759.....	28	19	9	3.6	4.2	3.7
Immaturity at birth, 774-776 .....	54	18	36	7.0	6.5	6.0
Accidents, total, 800-962 .....	118	84	34	44.5	57.9	59.7
Motor vehicle accidents, 810-835, 960.....	64	48	16	24.1	30.5	32.3
All other defined causes .....	325	187	138	122.6	135.7	144.4
Ill-defined and unknown causes, 780-793, 795.....	98	45	53	37.0	29.0	37.7

Rates: birth and death—per 1,000 population  
infant deaths—per 1,000 live births  
fetal deaths—per 1,000 deliveries  
maternal deaths—per 10,000 deliveries  
deaths from specified causes—per 100,000 population

A. M. A. NEWS RELEASE

PROGRESS OF MEDICAL SCIENCE FORCES HIGH LABORATORY COST

How the progress of medical science forces the cost of certain laboratory procedures to reach almost unrealistic levels over which neither patient nor physician has control is seen from an article appearing in the November 21 issue of the Journal of the American Medical Association.

Heart catheterization, a valuable diagnostic tool to the physician, has grown exceedingly complex and costly, especially in relation to the equipment and personnel required. This cost, however, is only the beginning. Heart catheterization is one of many procedures terminating in cardiac surgery which is carried out by a large team using a costly heart pump.

Cost analysis of heart catheterization is covered in a Journal article written by Dr. Max H. Weil, formerly chief of cardiology at the City of Hope Medical Center, Duarte, Calif., and presently assistant professor of medicine at the University of Southern California School of Medicine, Los Angeles.

Heart catheterization, first described by Dr. Werner Forssmann of West Germany in 1929, is used as a diagnostic procedure in certain types of heart conditions, especially in children born with heart defects. In 1956, Dr. Forssmann, along with Drs. Andre F. Cournand and Dickinson W. Richards of Columbia University, were jointly awarded the Nobel prize in medicine for perfecting a method of charting the human heart by catheterization.

The technique, for example, can yield valuable data on the pressure and oxygen content of the blood and the way in which the blood flows through the pulmonary artery system, and the contributing systemic circuit. Since definitive treatment of congenital heart lesions is surgical, the information obtained by cardiac catheterization is sometimes needed in order to reduce the number of patients undergoing surgery for inoperable defects or denied operation for defects that could be corrected.



Dr. Weil stated that, while the procedure is valuable in many respects, "the financial burden of development and maintenance of a proficient cardiac catheterization laboratory is such that the unit can hardly be self-sufficient."

"In addition to the need of costly physical space in a hospital area, the expense of special installation in a properly equipped laboratory may be in excess of \$100,000," he said. He provided a detailed summary of actual costs involved in the establishment of one such unit. It ran to \$104,113.88.

How the advancement of medical science has forced the cost of certain diagnostic procedures, such as heart catheterization, to skyrocket is seen from a breakdown of Dr. Weil's figures.

He said that with so many remarkable refinements taking place constantly in cardiac catheterization, the equipment requires almost constant replacement.

"For this reason," he said, "purchase of equipment becomes a continuing necessity if standards are to be maintained. It is estimated that the basic expenditure will be repeated at the end of five years."

"Further," Dr. Weil said, "successful conduct of the laboratory requires a competent medical staff on at least a half-time basis." Each procedure requires participation of a minimum of two physicians, a nurse and three additional trained persons. In small children, the services of a highly skilled anesthesiologist are required.

If three cardiac catheterizations are done weekly, the cost of technical and nursing personnel alone for each procedure is \$130. This does not include the fee for the cardiologist's services or for anesthesia.

"Then expendable items such as catheters, x-ray film, radiopaque mediums and recording paper add about \$65 for each procedure," he said.

Dr. Weil also pointed out that the paper work and study of data in connection with each procedure are enormous. A typical case involving the procedure—interpretation of data, calculations and compilation of the report—requires a minimum of eight hours of

a heart specialist's time alone.

Dr. Weil offered a solution to the complex cost problem.

"Would it not be far better," he asked, "to pool professional and financial resources and thereby provide generous support of a centralized laboratory? Cardiac clinics throughout a geographical area, each of which has but a limited number of patients requiring detailed studies, would share the advantages provided by a laboratory which is more adequately staffed and equipped."

"Generous support," Dr. Weil added, "should be given to development of a centralized diagnostic laboratory serving several hospitals and clinics."

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**Simpler Method Described for Emergency Transfusions**—A simplified method of giving blood transfusions in certain emergency cases has been disclosed by two Chicago doctors.

Writing in the January 2 issue of the Journal of the American Medical Association, Drs. John R. Tobin, Jr., and Irving A. Friedman described a new way to process transfusions which must be enriched with platelets, a blood component involved in coagulation. Such transfusions are used in emergencies to control bleeding and clotting.

". . . the usual methods for the preparation of platelet concentrates, platelet-rich plasma, or platelet-enriched whole blood incorporate techniques which are not available to the usual hospital blood bank, i.e., low-temperature processing, special anticoagulants, and the immediate availability of compatible blood donors," they said. "The inference that these latter techniques are essential . . . has deprived many hospitals of a valuable therapeutic tool."

"It is our contention that platelet transfusion . . . can be made readily available if the 'bank blood' . . . is used."

The doctors studied 13 patients given processed whole blood from normal donors, compatible with the recipient and in storage less than 48 hours.

They reported that bleeding "was dramatically controlled in five, partially controlled in five, and poorly controlled in three patients."

The doctors concluded that human platelets can be prepared for transfusion "without special procedures or immediately available compatible blood donors" and this should make such transfusions possible in most hospitals.

Dr. Tobin is associated with the departments of medical education and hematology of the Hektoen Institute for Medical Research of the Cook County Hospital and the departments of Medicine of the Stritch School of Medicine, Loyola University. Dr. Friedman is associated with the Chicago Medical School.



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## A CHALLENGE OF OPEN HEART SURGERY

CHAMP LYONS, M. D.

Birmingham, Alabama

It was 30 years ago when, as a sophomore medical student, I was invited by my faculty advisor, Dr. Edward Churchill, to visit his surgical laboratories in the Boston City Hospital and observe an early experiment on extra-corporeal perfusion by Dr. John Gibbon. As a result of Dr. Gibbon's persistence, a satisfactory heart-lung machine was designed. During the last 5 years open heart surgery has been developed to a point of clinical acceptance in a number of centers. A contemporary surgeon, after observing an operation within the interior of a by-passed and motionless heart, has remarked that "the egg-head rides again." The laboratory surgeon stands vindicated at last after penurious years of clinical derision for attempting the impossible. However, numerous problems remain and their solution is essential and inevitable. As members of the Heart Association, you have accepted certain responsibilities in seeing that these challenges are met. More specifically, you are obligated to see that the funds you collect are wisely expended for research and training and that the citizens of your communities receive a reward for their philanthropy in terms of improved medical care. We at the Medical College of Alabama have spent 9 years and about a half million dollars to bring together a cardiovascular team with diagnostic and surgical facilities that compare quite favorably with those to be found anywhere. It is from this vantage point that I am em-

boldened to orient your thinking as regards the twin challenges of research and service in this area.

Let us consider first the challenge in research. The Heart Association and the National Heart Institute are currently besieged with requests for grant-in-aid to permit the purchase of heart-lung machines by interested groups engaged primarily in community practice. The decision has been made at the national level that such requests should be denied. Actually, an acceptable and disposable disc oxygenator is currently available on the open market for \$30.00. More importantly, however, it is becoming increasingly apparent that the technics of perfusion are already highly developed and that responsibility for perfusion should be assumed by someone other than the surgeon. More usually, this "other person" is a clinical physiologist, but he may be an anesthesiologist. It is essential that he have considerable laboratory competence, an understanding of electronics, and considerable ingenuity to stay abreast of developments in his field and to assist in the diagramming of special technics to meet specific problems as they arise. In the present stage of development of open heart surgery, it seems extremely unlikely that a local group could acquire a heart-lung machine, do a few experiments, and then operate on humans with an acceptable mortality. In our own experience, we demanded that our pump team perfuse 10 dogs successively for 45 minutes and have them sur-



vive for two weeks without apparent complication. We have since learned that this was an extraordinarily rigorous requirement because of perfusion problems peculiar to the dog, but our success in this mission is one basis for our confidence in the oxygenator developed and operated by Dr. Leland Clark of our team. A number of controls of the adequacy of perfusion are generally a part of the operation. These include constant electrocardiographic and electroencephalographic records; running records of pH and oxygen tension of the arterial outflow from the pump; direct measurement of mean arterial, inferior caval and superior caval pressures; and concomitant measurements of the temperature of the patient and of the blood in the pump. In only two centers with an experience of over 200 perfusions has it been found possible or practical to reduce these monitoring devices in any degree. Others with equal experience decry this attempt to reduce the controls.

The mortality rates for open heart surgery are now predictable within several categories. In the congenital group of uncomplicated septal defects the risk of life is about 5 per cent, with most of this mortality occurring in the ventricular septal defects. It is felt that this incidence reflects the overall opportunity for errors in diagnosis, surgical technics and perfusion. On the other hand, there are certain congenital defects wherein the operative mortality is prohibitively high at 80 per cent or more. These include transposition of the great vessels, cyanotic tetralogy of Fallot, and defects previously treated by any variety of aortico-pulmonary anastomosis. The widely heralded successful direct repairs of tetralogy of Fallot are limited almost entirely to the "pink tetrads," those with persistently patent ductus arteriosus.

Earlier in our experience, postoperative deaths occurred from a variety of causes. Shock due to metabolic acidosis has been overcome by insistence upon high flow rates during perfusion. Hemorrhagic diatheses, incident to suction removal of large quantities of coronary venous return or bronchial col-

lateral flow, have been largely correctable by the administration of fibrinogen and by meticulous avoidance of blood loss during the period of heparinization. It has been learned that potassium arrest damages the heart and may result in irreversible ventricular fibrillation in the operating room or later in the postoperative period. Hypoxic arrest of the heart is somewhat better tolerated, but is contraindicated in the presence of left ventricular enlargement. Direct perfusion of the coronary arteries is generally practiced during repair of the aortic valves.

These mortality rates of the present era are due almost entirely to heart failure. The dominant cause of right heart failure is increased resistance in the lungs. Earlier attempts to identify this increased resistance in terms of elevated mean pulmonary artery pressure failed because high flow rates and vasospasm also raise pulmonary artery pressure. When there is truly increased pulmonary vascular resistance, as determined by measurements of pulmonary artery pressure, wedge pressure and cardiac index, the mortality rate approaches 70 per cent due to right heart failure in the postoperative period. Although intermittent positive pressure breathing has been useful in the treatment of this complication, it has severe limitations.

Left heart failure also occurs as a postoperative complication. The main problem here is primarily related to volume rather than resistance. If, after closure of a septal defect an under-developed left ventricle cannot accept an increased volume, the myocardium fails. Similarly, if myocardial tone is diminished in the immediate post-perfusion period, the left heart distends and dilates to initiate failure. It is customary now to provide for decompression of the left heart by a catheter in the left atrium or, as we prefer, by a cannula through the apex of the left ventricle until it is apparent that the left ventricle can handle the inflow load. Calcium is useful in the restoration of myocardial tone.

Ventricular fibrillation is also a mechanism of heart failure. It has already been noted that cardioplegic technics carry an especial



hazard in this regard. Another hazard is that of coronary air embolism. An established fibrillation may require increased coronary perfusion, electric shock, Isuprel, or combinations of these for effective restoration of a normal beat. Other rhythm disturbances, such as heart block, may complicate intracardiac suture and require the use of pacemakers and direct myocardial electrodes.

These technical details are presented to justify an earlier opinion that the surgeon has plenty to concern him without being at the same time primarily responsible for the adequacy of the perfusion. They also point up the dependence of the surgeon upon an accurate preoperative evaluation and diagnosis of the cardiac problem. A few years ago there was much loose talk about "exploratory cardiectomy" whereby the surgeon would open the heart, make the diagnosis, and proceed with his reparative operation. Although a similar philosophy has some merit in abdominal surgery, I know of no competent cardiac surgeon today who would endorse the concept of an exploratory cardiectomy. Disorders of the heart are primarily understood in terms of physiologic dysfunction and only rarely does the anatomic picture give total comprehension in a given patient. Until very recently, the physiologic evidence for an intracardiac shunt was dependent upon differences in oxygen content of blood aspirated from the different chambers of the heart. This technic was crude in that significant oxygen differentials were not obtained unless 25 per cent to 50 per cent of the stroke volume was passing through the shunt. The National Heart Institute has devoted much money and effort to development of the nitrous oxide technic and the radioactive krypton technic to permit the detection of quantitatively lesser shunts. In both of these technics the position of the catheter is uncertainly determined by visualization under fluoroscopy and it is necessary to remove blood for diagnosis. Small infants do not tolerate this blood loss well. Within the last month there has been developed in our laboratories a platinum wire electrode that can

be passed into the heart within a Cournand catheter. Its position within the heart has the added confirmation of an electrocardiographic pattern when the wire serves as an EKG lead. The electrode is sensitive to both hydrogen and ascorbic acid, generating a current of about 50 millivolts on exposure to these substances in minute concentration. With these two substances it is now possible to duplicate the present krypton and dye curves without withdrawing blood and with considerably greater sensitivity than was provided by the older technics. The investigators at the National Heart Institute have visited us and agree that these new technics constitute an important advance in this field. Such developments as these emphasize the necessity for participant basic scientists in physiology, physics and electronics as integral members of the cardiovascular team necessary to stay abreast of this rapidly expanding field. It is also clear that improved methods allow a more precise determination of pulmonary vascular resistance. Cineangiography has made pediatric diagnosis extremely precise and it is likely that it may soon extend to adults. In other words, the diagnostic effort in this field is almost as complex as the surgical effort.

The logical conclusion to be drawn is that some sort of a team organization is necessary for successful open heart surgery. It is time now to ask how many such teams are needed in Alabama, how should they be activated, and how should they be supported? Perhaps we should examine the various possible answers.

It is perhaps easier to answer the question about activation of these teams than any other. Once personnel has been recruited, it will save time and lives if it arranges for special training in established cardiovascular centers. This has many advantages over self-instruction at home at this late date in this development. The Heart Association may well examine its trainee program for funds to support this type of graduate education.

Economic support for this project is considerably more complicated. If revenue from



patients is to support the entire project, those of you familiar with fund raising to send patients out of State know that the cost per case is about \$5,000. You also know that most families cannot meet such an expense without help. At the Medical College in Birmingham, the same case can be handled for \$1,500 to \$2,000. We are able to do this because the members of our team are subsidized as teachers and carry research grants to make added equipment and facilities available as part of an investigative program. It is usual for our patients to have some type of insurance coverage, but in almost every instance there has to be further support from the Crippled Children's or State rehabilitation funds. Most of you know that we do not yet match with State funds the available Federal funds under these programs. The wise expenditure of these funds dictates that the limited amount available be expended for the best risk patients. I hope that you will remember this the next time you hear that we turned down a case that was subsequently operated upon elsewhere. I would also like you to realize that had the same funds, raised and expended to send the patient elsewhere, been sent to us that we could have cared for that patient and two more patients. In other words, we desperately need more funds to cover the hospital bill for these socially sufficient but medically indigent patients. It would be helpful if, as part of the educational program of this Association, this need could be made evident to the citizens and the legislators of this State.

Now as to how many teams we need in this State. We are doing two cases a week and the waiting list is growing steadily. This restriction, however, is one imposed by limited budgets to support hospitalization. Were these costs provided, it is likely that we could keep abreast of the current rate of detection of new cases without any great increase in personnel or facilities. We need greater volume to justify assignment of nursing teams and space dedicated to the care of these patients by the hospital. Indeed, if new funds are not found to support hospitalization, it is

likely that an additional center for open heart surgery would so dilute the funds now available to us that both teams would suffer.

It is, however, unthinkable that our State would fail to provide essential medical care for its cardiac cripples. Therefore, as we work toward this goal, we must also encourage an expanded detection program for both children and adults. Your medical board has realized this need and is already planning in this direction.

There is one final point I would like to discuss with you. Whenever we do an open-heart operation it is necessary for several donors to provide the blood to prime the pump and to cover the anticipated blood loss. It is preferable that this blood be drawn immediately prior to the operation. It would be most helpful if your educational program emphasized this opportunity for humanitarian service to more of the citizens of the State.

In closing, I want to express the gratitude of our cardiovascular group in Birmingham for the moral and budgetary support you have provided us. You are truly members of our team and entitled to share our pleasure in the national recognition that has come to us in four areas:

1. The development of the crimped prosthesis for arterial replacement.
2. The cure of strokes by operations to restore blood flow in carotid arteries obstructed by arteriosclerosis.
3. The design and construction of an operating room to expedite open-heart surgery.
4. The solution of the problem of diagnosis of intracardiac shunts by the development of intravascular electrodes.

A very wise man recently remarked that "We live in an age of technologic precocity and spiritual adolescence." I am confident that with your help we shall meet the spiritual challenge of an expanded budget to meet the hospital costs of curable heart disease.



## ANAPHYLACTIC REACTION TO STREPTOMYCIN

WALTER C. McCOY, M. D.  
Birmingham, Alabama

### CASE REPORT

Despite their many benefits, antibiotics have at times brought increased suffering to many patients. The dangers of the antimicrobial agents, especially penicillin, have been well documented.<sup>1</sup> This report is concerned only with streptomycin.

Since its introduction by Waksman, streptomycin has been widely used for its anti-tuberculous properties as well as for its effectiveness against gram negative bacteria. The usual reactions are not dangerous and consist of acral paresthesias, flushes, visual difficulties, pyrexias, rashes, and eighth nerve (usually vestibular) complications.<sup>1-8</sup> Less commonly encountered are the more severe reactions with anemia, hepatitis, and the encephalopathies.<sup>3</sup> Even rarer are the instances of alarming or fatal anaphylactic reactions.<sup>2,4,8</sup>

After using streptomycin for over 10 years with only mild and inconsequential side-effects, I was faced suddenly with a frightening and nearly fatal result. This challenging contretemps prompted my report.

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From the medical service of St. Vincent's Hospital. Presented in part at a hospital staff meeting January 14, 1959.

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On the 3rd of January 1959, a 41-year-old white department store buyer consulted me because of a respiratory infection. For several days he had experienced malaise, slight fever, and a sore throat. The only medication used was aspirin. Several years previously he had taken penicillin for sinusitis. A few days later there were urticarial lesions. Streptomycin had been well tolerated on several occasions, but he did have a slight rash after one injection 8 months previously. Except for occasional respiratory infections and moderate tension associated with the stress of his work, the patient had been in good health. A knee injury in July 1954 necessitated the removal of a torn right semilunar cartilage in January 1955; following surgery, the patient made an excellent recovery. The family history revealed the fact that the father died suddenly at 52; death was attributed to heart disease. A paternal uncle died at 55 with an acute coronary occlusion verified by necropsy. Examination showed a well-developed, somewhat anxious-appearing white male of the stated age of 41. Blood pressure was 120/80, temperature was 99 2/5 degrees, pulse was 92 and regular. The pharynx was moderately reddened, but there were no exudates. The chest was entirely clear. The abdomen was soft and there were no palpable masses. The skin color was pink and the texture was soft.

Following the examination, I gave the patient for his respiratory infection 1 gram of streptomycin sulfate deep into the lateral, superior quadrant of the right buttock. When the patient sat up after the injection, he complained that he felt unusual—had a heavy feeling in his chest. I asked him to go into an adjoining room to lie down on a bed, but he replied that he felt too faint. Calling an experienced nurse to watch him, I left him on the examining table. Hardly had I left, before the nurse, with evident concern, called me back. The patient had suddenly lost con-



sciousness, his breathing became labored, and his color cyanotic. Blood pressure and pulse were unobtainable. The heart sounds were faint and the rate was 120 per minute. One-half ml. of 1:1000 epinephrine was injected into each arm. The patient roused up momentarily to complain of dyspnea and to tell me that he believed he was dying. He lapsed back into a coma and the cyanosis deepened; a few wheezing rales developed. In an effort to combat the hypotension, 1 ml. of mephentermine sulfate (Wyamine) was given intramuscularly; 10 minutes later another 1 ml. was injected. The blood pressure did not rise—in fact remained unobtainable from the first during the entire 30 to 40 minute period the patient was in my office. The cyanosis became more intense; 4 ml. of coramine were administered intravenously. Breathing improved slightly, but there was no other change in the patient's precarious condition. An ambulance was called. This ambulance was equipped with an oxygen mask, and en route to the hospital the patient received continuous oxygen. On admission to St. Vincent's Hospital he did appear slightly less cyanotic; but there was still no obtainable arterial pressure, dyspnea persisted, the cardiac rate continued to be rapid, and the pulse was unobtainable. The patient was placed immediately in an oxygen tent, and an infusion of 500 ml. of 5% glucose in physiologic saline containing 4 ml. of norepinephrine (Levophed) was attempted. Injection was difficult, as all the peripheral veins appeared to be collapsed. Finally, the fluid was started in a vein on the dorsum of the left hand. Within 3 minutes, the blood pressure rose to 60 mm. of mercury systolic with no clear diastolic end point. Ten minutes later the pressure rose to 138/80 and the infusion was slowed. The norepinephrine solution was maintained for 1¼ hours and blood pressure (checked every 5 minutes) varied thereafter from 90/60 to 115/78. Despite 15 liters of oxygen per minute in the tent, visible cyanosis persisted for 3 full hours.

Awareness returned gradually, and during this period the poor man observed that he

knew he had experienced a heart attack. His devoted wife, who had been present from the very first, confided in me that her husband looked exactly like her father on the night that he died. Despite all the anxieties and pessimism, the patient improved steadily.

Norepinephrine solution was followed by 500 ml. of 5% glucose in physiologic saline, and a slow drip continued for 3 hours. One hour and a half after the intravenous solution was stopped, blood pressure dropped to 94/60; 1 ml. of mephentermine sulfate was given intramuscularly and within 30 minutes the pressure was 100/70. Thereafter, with 30 minute checks during the next 18 hours, blood pressure varied from 98/60 to 118/75. Oxygen was discontinued after a total of 23 hours.

Laboratory studies made shortly after the patient's admission showed the hemoglobin to be 16 grams, hematocrit 49%, WBC 26,750, with 5% lymphocytes, 2% monocytes, 2% stabs, and 91% polymorphonuclear leukocytes. Four hours after admission the patient voided and this specimen revealed 20 mg. of albumin, ½% sugar, many pus cells with a rare red cell, and many coarse and finely granular casts. Two days later a second urinalysis showed only 5 to 7 pus cells per high power field, a sp. gravity of 1.023, and no albumin nor sugar. Blood serology was negative. Blood transaminase (SGOT) 18 hours after admission was 32 units—within the hospital normal range of 1 to 40 units. A 12-lead electrocardiogram made 21 hours after admission showed prominence of the T-waves in the precordial leads suggestive of hyperkalemia, but was otherwise entirely normal.

The urinary output when the patient first voided was 300 ml. as he apparently had some urine in his bladder at the onset of the attack. During the next 8 hours he excreted 240 ml., and during the following 8 hours only 100 ml.; thereafter the output increased, and returned to 550 ml., 875 ml., and 240 ml. (night output) for the subsequent 8-hour periods. Fluid intake after consciousness returned was not charted precisely but seemed adequate.



Malaise persisted for several days. Temperature remained normal. On the 3rd day the patient was allowed out of bed and he was discharged from the hospital on the 4th day. Convalescence was rapid, and 10 days after the onset of his attack he returned to work.

## DISCUSSION

In considering this disturbing case I have wondered what (aside from the obvious omission of streptomycin) could have been done to improve the treatment. The use of antihistaminics, epinephrine, and oxygen, as advised by Farber and his group,<sup>2</sup> would appear inadequate for the more severe reactions. Certainly in our case the epinephrine, mephentermine, and coramine did not control the shock. Oxygen had no effect on the pressure, but did lessen the cyanosis. In my opinion the patient might have continued in shock and died without the norepinephrine, and, while a norepinephrine infusion is hardly an office procedure, such an infusion could have been started in the office and continued on the way to the hospital. One might object that the 10 or 15 minute delay would hardly justify its use in the office, but starting the intravenous norepinephrine at the earliest possible time, while veins were in good condition, could make the vital difference. Epinephrine did prove disappointing, but may have helped to maintain the patient till oxygen and norepinephrine were available. Mephentermine sulfate did not seem to be helpful initially, but once the patient overcame the initial shock, it seemed to help in the milder secondary hypotensive reaction.

Our patient's fear of a myocardial infarction has at least two clinical reports for justification. Dr. Grace Newman<sup>8</sup> observed a 56-year-old nurse who gave a previous history of asthma. Following an anaphylactic reaction to penicillin and dihydrostreptomycin, this nurse developed a posterior myocardial wall infarct. Dr. Gupta<sup>3</sup> reported a case of myocardial infarction following an anaphylactic reaction to 1 gram of streptomycin. The scientific curiosity of Dr. Gupta transcends my personal comprehension. Five

days after his patient's initial shock and with the patient on cortisone and continuous norepinephrine drip, a second injection of 1/2 gram of streptomycin was given. The reaction was as prompt as it was dramatic—the unhappy patient had a convulsion and went into shock. Dr. Gupta's next remark was enlightening: "It can be concluded that this dosage of cortisone is either inadequate or insufficient to prevent anaphylaxis in a highly sensitized individual."<sup>3</sup> Fortunately, and as a brave tribute to the innate toughness of human protoplasm, the patient eventually recovered.

Should sensitive patients require further therapy with streptomycin, as in the case of tuberculous patients, desensitization has been recommended.<sup>5,7</sup> The wisdom of subjecting a person who has experienced an anaphylactic reaction to another such reaction is at best questionable. All of the reports given<sup>5,7</sup> involved the minor reactions. Dr. Gupta<sup>3</sup> is apparently the only one I have found who had the temerity to test the more severe reactors.

## SUMMARY AND CONCLUSIONS

A case of severe, anaphylactic reaction to streptomycin sulfate is presented. This patient continued in a state of shock despite epinephrine, mephentermine sulfate, and coramine. Oxygen did lessen the cyanosis, but norepinephrine alone produced a fairly prompt rise in blood pressure and abolished the shock. There were no sequelae. There is a brief discussion of the therapy of such cases. Two reports of myocardial infarction subsequent to anaphylactic reaction are noted. It is concluded that streptomycin should not be given to patients with a previous sensitivity to this drug. In the event that an anaphylactic reaction occurs, therapy should include oxygen and intravenous norepinephrine.  
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APRIL 21, 22, 23



## ACUTE AND CHRONIC PANCREATITIS

MOSES BEHREND, M. D.

Philadelphia

Theories concerning the causes of acute pancreatitis are as baffling now as they were within the past century. Research in this field has not helped to determine the causes of acute pancreatitis. The most recent articles on pancreatitis as a whole by Grossman and Machella published in the April 4th number of the A. M. A. Journal have not helped us to solve this complex subject. Grossman intimates that through intravenous cholangiography it may be possible to establish a communication between the biliary and pancreatic ducts. Up to the present time no one has demonstrated this intimate anatomic relationship. It has been stated that an obstruction at the papilla of Vater, an admixture of bile and pancreatic juice, and overeating and drinking are the forerunners of acute pancreatitis. These various factors have never been substantiated, although it does remain a fact that gourmands and those who indulge heavily in alcoholic liquor are more prone to acute pancreatitis than those who are abstemious. Acute pancreatitis may, however, occur in those who lead perfectly normal lives.

The occurrence of this disease seems to come in cycles. I well remember many years ago having had the experience of treating three cases of acute pancreatitis in one day, and then it took six months or more to see another patient with the same affection. Acute pancreatitis is a rather rare disease, because in my term of practice of medicine, which is now sixty years, the total number of cases of acute pancreatitis has been few and far between.

The symptoms are rather characteristic. There is no intra-abdominal pain comparable to that of acute pancreatitis. The pain is universal, but more intense in the entire upper abdomen. It is accompanied by fever, perhaps a chill, and sometimes collapse. The pa-

tients are usually robust, fat and plethoric, although these characteristics are not always the same. Acute pancreatitis may occur in any type of individual. These signs and symptoms may continue and last for quite some time if they are not inhibited by means of drugs. With the administration of large doses of morphine and atropine, the symptoms subside more quickly. On account of the intense pain, small doses of morphine are useless. As much as a grain of morphine may be given at comparatively short intervals.

It is not always easy to make a positive diagnosis of acute pancreatitis. The amylase test is of great assistance in determining whether the patient is suffering from acute pancreatitis or some other acute abdominal condition. An increase in the readings of the amylase test may be found in other conditions, but when the patient is seen writhing in severe pain, and an increased reading in the amylase test occurs, one can be almost certain that one is dealing with an attack of acute pancreatitis. This is especially confirmed when the gallbladder is large, distended and tender. Differentiation between an acute cholecystitis with cholelithiasis and acute pancreatitis should be a rather easy one. The gallbladder is distended, and the pain, tenderness and rigidity are localized in the right hypochondriac region. It can be felt as a rounded mass, the symptoms of which will subside if nothing is administered by mouth. In pancreatitis there is a wider area of the above physical signs, which take a longer time to subside. In acute perforation of a duodenal or gastric ulcer, while the pain is intense and universal over the entire abdomen, it cannot be compared to the agonizing pain as stated above. In acute pancreatitis x-ray may be of some help in locating air under the diaphragm, and most certainly makes positive a diagnosis of a perforated viscus. On the other hand, x-ray may assist in diagnosis of acute pancreatitis. It has been stated that there is a sentinel loop of dis-

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Read before the Alabama Surgical Section, United States Section, International College of Surgeons, Huntsville, May 22, 1959.



tended jejunum, a flattening of the greater curvature, and a wide duodenal loop. The differential diagnosis from acute gangrenous appendicitis should be rather easy. If the appendix is high and particularly inflamed, there will be a little more difficulty in the differentiation between pain of appendicitis and acute pancreatitis. A good rule to follow, if one is not sure of the diagnosis, is to operate on the patient as an emergency. A stone passing down the ureter is also another factor to be considered. The pain in these cases is of a colicky nature. It remains localized to the right or left lumbar or iliac region depending on which kidney is affected. Usually one dose of morphine is sufficient to control the symptoms.

The treatment of acute pancreatitis has changed materially in the past few years. Formerly, almost every case was operated upon immediately without any preparation of the patient. Deaths following these procedures were almost 100 per cent. In the fulminating cases, death follows a few hours after the inception of the symptoms. Now, before an operation is performed, aspiration of the stomach is probably the first thing to do, because the patients usually vomit their sumptuous meal. Five per cent glucose is given intravenously, and a blood transfusion is administered if necessary. Antibiotics may be given with caution, because many deleterious effects have been reported from the use of these life saving measures.

Even after the abdomen has been opened, which may be several days, a week or longer after the acute attack, the procedure must be patterned to suit the individual case. There are always flakes of fat necrosis scattered over the intestinal tract, omentum and peritoneum. These white blotches can be observed weeks after the attack. Very often gallstones are present, or there may be a stone in the common duct. If the peritoneum is soiled very much with pancreatic exudate, the abdominal cavity is drained. Usually the pancreas is not incised unless there is a definite cystic formation, which will probably consist of blood. The lesser peritoneum

should be opened and drained if there is a collection of fluid behind the pancreas. When cholelithiasis is present, the stones are removed, followed by a cholecystostomy, which will be the operation of choice. Occasionally, if there is too much contamination of the peritoneum, a cholecystectomy may be performed safely.

The causes of chronic pancreatitis are a greater enigma than those supposed to precipitate an attack of acute pancreatitis. Many theories have been expounded, one of which is that a chronic pancreatitis follows numerous attacks of acute pancreatitis. Congenital fibrocystic disease of the pancreas may be a potent factor as a forerunner of chronic pancreatitis. Bockus believes this contention to be true. Deaver's theory was that there may be an infection from the biliary tract through the lymphatics.

The interpretation of the symptoms of chronic pancreatitis are as perplexing as the hidden causes of this disease. The intensity of the pain varies a great deal. It is not dependent on the ingestion of food, although some attacks may be precipitated by an injudicious selection of the diet. Jaundice of a very light hue may accompany the attacks of pain and discomfort in the epigastric region. Diabetes may be a clue to the diagnosis of chronic pancreatitis. But, after all, the positive diagnosis must be made by means of an operation. Even when the abdomen is opened it requires a large experience to differentiate between a normal and an abnormal pancreas. To obtain this experience one should always palpate the pancreas for any lesions requiring an upper abdominal operation. Concomitant gallbladder disease may accompany chronic pancreatitis. The presence of gallstones is not as frequently encountered in chronic pancreatitis as in the acute type.

Peptic ulcer and carcinoma of the pancreas are the main conditions to differentiate from chronic pancreatitis. X-ray will assist in eliminating gastric or duodenal ulcer. Carcinoma of the pancreas in the advanced stage presents no difficulty, because the jaundice



resulting from chronic pancreatitis is of the bronze color type, and that of acute pancreatitis is of light yellow color. Acholic stools persist following the obstruction to the common duct. Chronic pancreatitis is a debilitating disease causing some loss of weight and weakness. At operation it is necessary to palpate the pancreas to differentiate the different characteristics of carcinoma of the pancreas as compared to chronic pancreatitis. In carcinoma of the pancreas the nodules are very hard and resistant, whereas in chronic pancreatitis the whole pancreas may be more pliable, but still hard without any outstanding nodule or tumor.

There is no stabilized form of treatment for chronic pancreatitis. Many techniques have been tried unsuccessfully. Sphincterotomy is a simple operation, and carries a small risk. A duodenotomy must be performed first. If for any reason the common duct has been opened, a probe or drainage tube may be passed to act as a guide for the incision into the duodenum. Pancreatic resection with retrograde duct drainage into the stomach or duodenum may be necessary if there is gross disorganization of the gland, or if the duct is blocked by scarring and fibrosis, pancreatic calculi or calcification of the gland. Pancreatolithotomy may be necessary, with internal drainage of the duct system. Sympathectomy has also been tried to lessen or eradicate the pain of chronic pancreatitis.

Many years ago choledochotomy, with the insertion of a t-tube, was used with relief. Sometimes a biliary fistula resulted, which should always be avoided. A better operation is one which establishes internal drainage from the bile passageways with an anastomosis to the gastro-intestinal tract. The stomach, duodenum or jejunum may be used. No deleterious results are noted as a result of an anastomosis with the stomach instead of the duodenum or jejunum.

#### SUMMARY

As stated before, notwithstanding all the research that has been done in this part of the twentieth century, no real progress has been made in the development of the secrets

of the causes and treatment of acute and chronic pancreatitis. In 1947 my son and I wrote a paper on the subject of chronic pancreatitis, reminding the medical profession of how little progress had been made in the development of this disease. We cited at that time ten cases of chronic pancreatitis for which many of the operations described years ago by one of us (M. B.) were performed. They range from a simple choledochostomy with tube drainage to the various complicated operations of anastomosing the gallbladder and/or the common duct. The ages of the patients ranged from 22 to 60. These operations gave a varying amount of relief. Some were improved, and others had no relief of symptoms. A few of these patients were followed for many years.

#### CONCLUSIONS

1. The causes of acute and chronic pancreatitis are still as much a puzzle as they ever were.
2. Acute pancreatitis is one of the most painful affections caused by intra-abdominal viscera.
3. The amylase test and the x-ray will be of some assistance in making a diagnosis of acute pancreatitis.
4. In former years acute pancreatitis was operated upon immediately as an emergency. Now better results are obtained after the inflammation has subsided.
5. If stones are present in the gallbladder, a cholecystostomy with removal of the stones should be done, rarely a cholecystectomy.
6. The diagnosis of chronic pancreatitis is a difficult one to make. Many operations have been devised, none an absolute cure.

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## THE USE OF PLASTICS IN RECONSTRUCTING THE FEMALE BREAST

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I feel greatly honored to share with you a few of my surgical experiences in the field of mammoplasty, and by so doing it is my sincere desire to give you a medium through which you can impart hope to patients with similar problems. The general surgeon frequently is confronted with the problem of large, painful, and pendulous breasts in the female. Not too many years ago all one could offer was bilateral mastectomy. I was first confronted with this problem in 1924 when an attractive young woman with enormous hypertrophy of the breasts came to me asking for amputation. I could not force myself to follow the pattern of bilateral mastectomy but found here a surgical challenge to which I could not resist applying reconstructive surgery. After reviewing the literature, which at that time was indeed limited, I decided to follow the procedure known as the Lexer-Kraske method, devised a year before.

All the literature reviewed by me at that time stressed, with emphasis, the hazards of reconstructing hypertrophied breasts. With this in mind, I decided to operate on one breast as an experimental step before attempting the other. The resulting postoperative course followed an uncomplicated pattern and in two weeks the procedure was repeated on the other side. Now, many years have passed, bringing improved techniques and antibiotics, which minimize many of the hazards. This short discussion on hypertrophied breasts is only a prelude to my subject, "The Use of Plastics in Reconstructing the Female Breast," and is mentioned only because this first case was so gratifying I felt plastic surgery on the female breast opened a new door of hope to those so afflicted.

The patient with underdeveloped or sagging breasts, is, in the great majority of instances, a psychologic problem; for either her

husband has made unkind remarks or the normally developed sister or friend has ridiculed her. Models and girls engaged in the theatrical profession are especially aware of the importance of beautiful breasts as an asset to their means of livelihood. Only through interview can one appreciate the mental anguish suffered by the individual with underdeveloped mammary glands.

The idea of inserting material into the breasts to enlarge them is not new. Many years ago paraffin was injected into the breast. This procedure proved very unsatisfactory and was discontinued. The transplantation of fatty tissue from the buttocks to the breast was then attempted with equally poor results. Not only was the patient left with an ugly scar and a depressed area at the donor site but within a year the transplanted fat had melted away. It proved pointless to mutilate one desirable part of the body if the result was not going to improve the other.

A few years ago, when tantalum steel mesh wire was introduced for repair of hernia, I thought that here was a material which could be used as a non-irritating implant. I made several attempts to construct a form which could be used for that purpose but was always confronted with the problems of proper size, shape, and flexibility. While toying with this idea, I read an article about the use of plastics in facial surgery and thought, and rightly so, that here was the answer to the problem of building underdeveloped breasts.

The material used at that time is known as Ivalon. Since then, two other plastic substances have been produced, namely, Polystan, made in Denmark, and Surgifoam, developed by Dr. Franklyn of Hollywood, California. All three of these materials seem to meet the requirements as outlined by Dr. Franklyn, which are:

- (1) The material must be inert.
- (2) Light in weight.

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Read before the Alabama Surgical Section, United States Section, International College of Surgeons, Huntsville, May 21, 1959.



- (3) Flexible, compressible, and the surgeon must be able to shape it.
- (4) Non-absorbable.
- (5) Free from allergic reactions.
- (6) Indestructible and permanent.
- (7) Easily sterilized.
- (8) X-ray transparent.

Both Ivalon and Surgifoam can be shaped at the time of surgery. Polystan has to be shaped in a metal mould and heated to seal its fibers before surgery. Inasmuch as it is impossible to stock and sterilize enough sizes and shapes of this material to fit any given case, it is impracticable for breast implants.

The question of cancer formation after the insertion of plastics is always asked. After intensive research, Columbia University reported some time ago that "No proven instance has ever been reported of cancer developing in humans after use of plastics in surgery."

The operative procedure in the hands of the skilled general surgeon is relatively simple. However, there are a few salient points which I would like to outline:

(1) The incision must be adequate for complete exposure of the pocket which is to receive the implant.

(2) Complete hemostasis is a must. A large dissecting hematoma could spell disaster.

(3) The incision should be below the plastic insert.

(4) Size and shape of implant: The three methods which I have used are:

(a) Try different sized "falsies" until one is found which conforms to the figure of the individual. Measure the "falsie" and duplicate these measurements in the implant.

(b) Make the following measurements with an obstetrical caliper: Measure vertically from the mid-clavicular to the mid-axillary line. Shape the insert in such a manner that the circumference will conform to these measurements and the apex of the cone will meet the bisecting lines.

(c) Franklyn's "breast quotient," which is hip measurement times frontal chest measurement divided by height in inches. A B. Q.

of 100 is small, 120 is full breasted and approaches normal.

Corresponding incisions are made one-half inch below the submammary line. They extend from the mid-axillary line forward two to four inches. The mammary gland and fascia covering the pectoralis major are dissected en mass from the muscle. The dissection extends medially to the internal mammary vessels, vertically to one inch below the clavicle, and laterally to the mid-axillary line. The internal mammary blood supply should be preserved. The other vessels are divided and ligated with chromic triple 0 catgut. The pocket is then packed with a laparotomy sponge saturated with normal saline solution while a like procedure is carried out on the other side.

An Ivalon or Surgifoam sponge, which has been previously shaped and sterilized, is compressed and inserted into the opening under the breast. If tension in the skin produces ischemia or discoloration, the sponge should be removed, or if the sponge does not produce an aesthetic purpose, it is removed and reshaped. After one is satisfied with shape and size, the sponge is duplicated. Both sponges are then reinserted. A properly shaped sponge fits the opening and does not have to be secured with sutures. Two hundred thousand units of penicillin are injected into each sponge. A small Penrose drain is inserted about an inch and the skin closed with interrupted sutures of fine silk. The breasts are secured in position with Elastoplast bandages. After 36 hours, the bandages and drains are removed. The breasts are then held in position with a properly fitting brassiere, which the patient wears continually for two months. The sutures are removed in three days and the wound is secured with butterfly tape dressings for two weeks.

In closing, I might add that, in reviewing the lives of these unfortunate patients, it is my firm contention that if reconstructive surgery can restore happiness and enjoyment to the life of an individual who has lost it that is as strong a justification for surgical intervention as surgery to restore health.



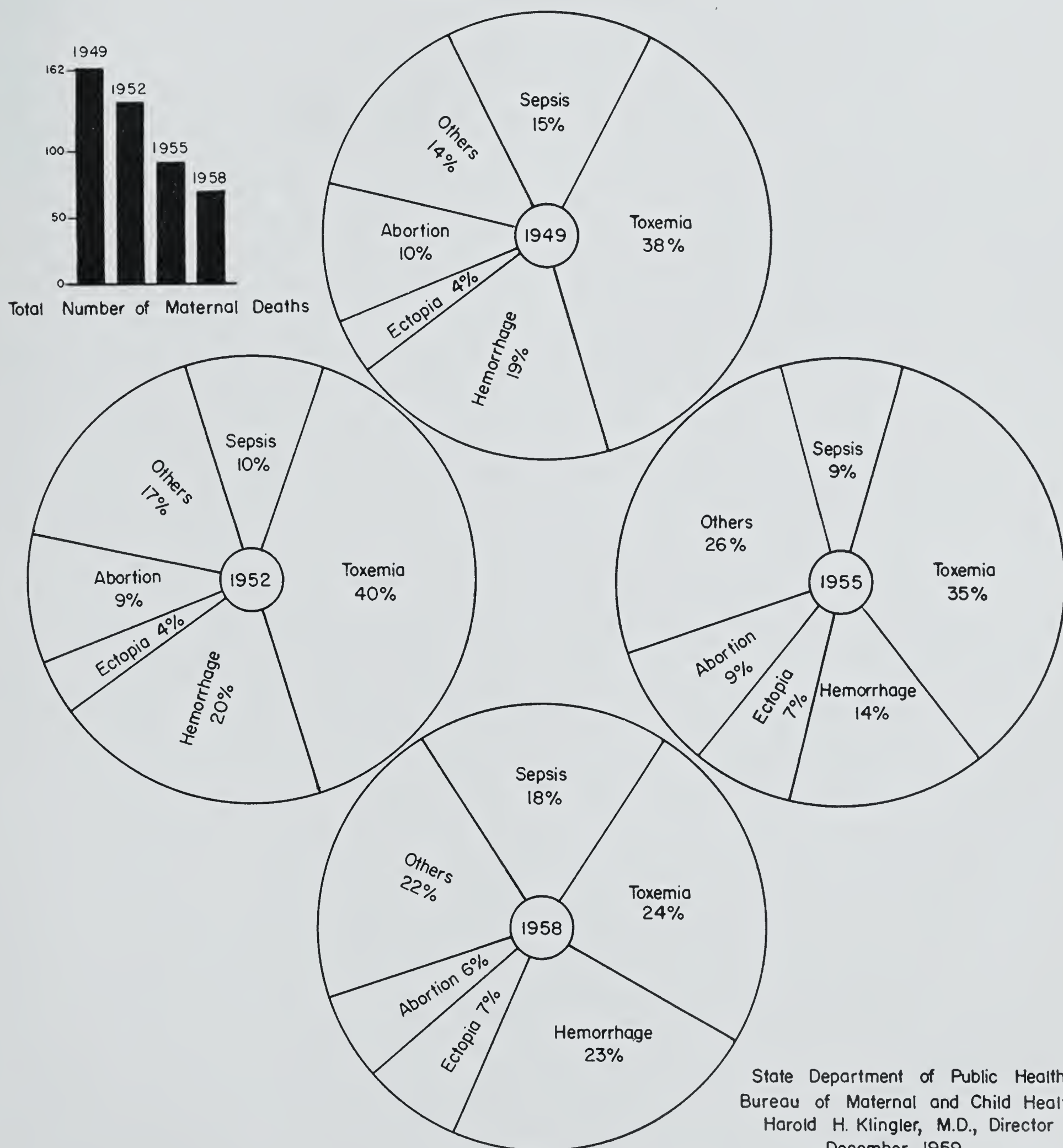
# LEADING CAUSES OF MATERNAL DEATHS IN ALABAMA, 1949-1958

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Montgomery, Alabama

The accompanying graphs are interesting and indicative of certain changes occurring in the maternal mortality picture in Alabama. Although the number of maternal deaths has decreased considerably over the

past several years, the causative factors involved have not been altered to any clear-cut or remarkable degree in their interpretation. The three major death-causing conditions have ranged from 72 to 65 per cent of

ALABAMA  
LEADING CAUSES OF MATERNAL DEATHS, 1949-1958  
(PERCENTAGE DISTRIBUTION)





total causative factors during this period. This may possibly indicate some tendency toward a slight shift away from the major causes. There is also a tendency in the three major mortality factors of a shift from toxemia toward hemorrhage, the range being from 40% for toxemia to 24%, and from 14% for hemorrhage to 23%. Sepsis has also increased percentage-wise, from 9 to 18% of the total causative factors. This increase in sepsis may be involved in the antibiotic resistant strains of bacteria that are becoming prevalent. Ectopic pregnancy and abortion could well be absorbed by the categories of hemorrhage and sepsis, since most of the deaths occurring in ectopia and abortion have as their actual cause of death either hemorrhage or sepsis or a combination of the two.

Although our maternal mortality at this time has not even approached the irreducible minimum, the medical profession is to be congratulated for its part in reducing Alabama's death rate. However, one must ever be alert to the possibilities involved and remember that a large number of our remaining maternal deaths are classified as preventable.

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#### BRIGHT FUTURE FOR TOTS

There is a bright future ahead for the 4,000 babies who will be born in the United States with cleft lip and cleft palate during 1960.

This hopeful outlook is revealed by Eugene T. McDonald, Ed. D., prominent speech and hearing specialist and director of the Speech and Hearing Clinic at the Pennsylvania State University, in *Bright Promise*—just published by the National Society for Crippled Children and Adults.

Dr. McDonald says that advances in surgery have made it possible to repair lips and make adequate functions possible in many palates. Dental techniques have been developed for reconstructing by prosthetic means those palates which cannot be repaired surgically. Speech therapists today know how to help children with cleft palates develop good speech. Furthermore, there are helpful sources for information on problems of cleft

palate, as well as resources for treatment, including state and local Easter Seal societies, state crippled children's services, many public schools in metropolitan areas and the speech clinics at colleges and universities.

Well illustrated with diagrams and "before and after" illustrations, *Bright Promise* traces causes of cleft lip and cleft palate, describes four major types and follows through on some of the technical advances in corrective procedures.

In pointing to studies of personalities of children with clefts, Dr. McDonald stresses that, as a group, they are as well adjusted as other children.

"Probably of greater importance than the child's cleft in determining his emotional adjustment is the way in which his parents work out their own feeling toward it. An understanding of these feelings—their beginning and how they grow—will help parents direct their feelings into wholesome channels," he says.

Dr. McDonald is a past president of the American Association for Cleft Palate Rehabilitation and a member of the professional advisory committee of both the National and Pennsylvania Societies for Crippled Children and Adults. He is widely known as an authoritative speaker and is the author of many articles and books on speech and hearing.

Copies of *Bright Promise* at 25 cents each may be secured by writing the Publications Office, National Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago 12, Illinois.

NEXT ANNUAL MEETING

ADMIRAL SEMMES HOTEL

MOBILE

APRIL 21, 22, 23





### **FIVE-YEAR-OLD MONGREL WINS RESEARCH DOG HERO OF YEAR AWARD**

Ruff, a frisky, five-year-old mongrel dog (mostly Eskimo Husky and Chow), has been chosen as the Research Dog Hero of 1959 by the National Society for Medical Research. Eight other outstanding research canines—Pansy, Patricia, Queenie, Bessie, Cedric, Honest John, Gina and Huckleberry Hound—were named to serve in Ruff's court for their aid to medical science.

On December 14, 1959 Ruff received an inscribed silver collar as "Research Dog Hero of 1959" at ceremonies held at the New York Academy of Sciences. Ruff recently made medical history by surviving happily for eighteen months with a second "booster" heart implanted in his chest. The experiment holds major hope for some 500,000 Americans whose hearts have been damaged by coronaries or hypertension.

Eighteen months ago Dr. Adrian Kantrowitz, director of cardiovascular research at Maimonides Hospital, Brooklyn, and Dr. William McKinnon, also of Maimonides, implanted a spare or booster heart in Ruff's chest. The second heart was made by refashioning a portion of his diaphragm into a muscular booster located immediately below his natural heart.

The booster heart was activated by a tiny radio transmitter outside the body that picks up the electrical impulses of the original heart beat. It then translates these beats into radio waves and relays the impulses to a tiny radio receiver encased in plastic and implanted inside the body.

This receiver is attached to the refashioned portion of diaphragm muscle. As it receives the impulses it causes the muscle to contract,

## *Editorials*

forcing the blood through the heart's main artery, the aorta, and on into the heart.

The booster reduced the work-load on Ruff's natural heart by about 25%. Dr. Kantrowitz states that "only a few electronic and biological problems remain before it can be used safely and effectively on humans."

Leading figures of medical science—including Dr. Leona Blumgartner, Health Commissioner of the City of New York, and Dr. Joseph C. Hinsey, Director of the New York Hospital—Cornell Medical Center—were on hand to applaud when Ruff received his inscribed silver collar as Research Dog Hero of 1959—the canine world's version of the Nobel Prize.

Two little girls, Laurie Anne Cloke, 4, and Elizabeth de Pasqua, 10, presented the award to Ruff. Their lives were saved by open heart surgery made possible by experiments made on dogs like Ruff.

Eight outstanding research canines received Honorable Mention Awards in the 9th annual election for the Research Dog Hero of the Year Award, sponsored by the National Society for Medical Research. All of the dogs were nominated by research laboratories in hospitals, medical schools and pharmaceutical houses.

Named to serve in Ruff's court because of their service to medical science were:

(1) Patricia, a 16-year-old collie, nominated by Mr. Horace F. Russo of the Merck Institute for Therapeutic Research, West Point, Pa. Over a fifteen-year period, research studies on Patricia contributed to better understanding of kidney functions, development of sulfanomides, discovery of Benemid, a drug used in treatment of gout, and



the development of Diuril and Hydrodiuril, drugs used for hypertension.

(2) Bessie, a 13-year-old mongrel dog, nominated by E. L. Freeland, supervisor of the Creighton University School of Medicine's animal hospital. During her decade in research Bessie has been a subject in prolonged studies by Dr. Charles M. Wilhelmj concerning the effects of diet on blood pressure.

(3) Honest John, a two-year-old beagle, nominated by Drs. John A. Mennick and E. Donnall Thomas of the Mary Imogene Bassett Hospital, Cooperstown, N. Y. The story of Honest John started last March when he was given three separate 600 roentgens of Cobalt 60 radiation at Bassett's teletherapy laboratory. Dr. Thomas, medical chief at Bassett and leader of the leukemia research team, said that "the approximate lethal dose for a dog is the same for humans: 400 roentgens."

Honest John was then given a transplant of bone marrow from a female litter mate but not an identical twin. Ten days later the dog was back to normal and nearly nine months later is still in good health. Honest John represents the first long-term radiation survivor to result from a homologous blood transfusion.

(4) Pansy, a three-year-old mixed fox terrier, nominated by Dr. John Sheldon, head of the allergy division at the University of Michigan Medical Center. Pansy came to the U-M about two years ago. Her owner brought her to Dr. Roy Patterson, an instructor in internal medicine specializing in allergy studies.

Doctors recognize three major signs of ragweed allergy: hayfever, bronchial asthma and, in some cases, skin eruptions. These cause widespread human misery, but it is uncommon to find any one of them in animals. Pansy has all three.

U-M doctors tried different medications on Pansy and were quite successful in relieving her symptoms. Now they are attempting to find which drugs help her most. "In discovering what helps Pansy we will learn more

about helping humans who suffer from allergies," Dr. Patterson says.

(5) Huckleberry Hound, a mongrel of unknown age, nominated by Dr. William S. Stoney of the Rudolph Light Laboratory for Surgical Research at Vanderbilt University, Nashville, Tennessee. Dr. Stoney worked on Huckleberry Hound in developing a new method for diagnosing acute pulmonary embolism, a dangerous form of heart disease.

(6) Queenie, a mixed hound of unknown age, nominated by Kenneth F. Kueter of the Division of Experimental Therapeutics, Abbott Laboratories, North Chicago, Illinois. During more than five years of service, Queenie participated in 304 studies contributing a great deal to an understanding of the physiologic mechanism of gastric secretion and the action of many drugs upon this function.

(7) Gina, a three-year-old boxer, nominated by Dr. Willis D. Lowe of the research animal farm at Massachusetts General Hospital, Boston. Her investigator, Dr. Khalil Torbey, states that Gina, now retired, played an important role in the development of a new intestinal and urethral operation.

(8) Cedric, a six-year-old boxer, nominated by Dr. William I. Gay, chief of the Animal Hospital Section of the National Institutes of Health, Bethesda, Maryland. Dr. Gay tested, in Cedric's hip, the tissue compatibility of titanium as well as its qualities as a prosthesis for a weight-bearing surface.

After the operation from which Cedric recovered successfully, it was found that his blood was the canine universal type, A-negative. And as with humans, the universal-type donor is much in demand. During his three years at NIH, Cedric has donated dozens of pints of blood to other dogs undergoing experimental surgery, and is none the worse.

The Research Dog Hero of the Year Awards were established by the National Society for Medical Research (which represents every accredited medical, dental and veterinary school and over 450 national scientific organizations) as a part of its program to ex-



plain animal research and promote understanding of professional ethics governing the care of animals in most research institutions today.

#### **SOCIAL HYGIENE NOW SOCIAL HEALTH**

The American Social Hygiene Association has voted to become The American Social Health Association, according to Frank H. Heller, president.

"Reason for the change," Heller stated, "is that 'hygiene' is an outmoded word which no longer is broad enough to describe the agency's family-centered program."

A national voluntary health and welfare organization, The American Social Health Association works "To promote those conditions of living, environment, and personal conduct which best protect the family as a social institution."

In 1953, concerned with the mounting evidence of family failure, the Association launched a nation-wide program in family life education. Through it, the Association assists schools and colleges to develop new courses and training programs which better equip teachers to work with children and young people. The Association also promotes family life programs among parents and community groups. It is the only national agency working to improve the family through a preventive educational approach.

Founded in 1910 as the American Federation for Sex Hygiene, The American Social Health Association represents a merger of many early groups which were vitally interested in the improvement of community conditions, the need for sex education, the reduction of venereal diseases, and the repression of commercialized prostitution.

The name, American Social Hygiene Association, was first adopted in 1914 when The American Federation joined with The American Vigilance Association, a society organized in 1912 "to suppress and prevent commercialized vice and to promote the highest standards of public and private morals."

In 1915 The American Purity Alliance, which worked "to secure and enforce laws

to prevent the social evil among females," became part of the Association. Another of these groups was The American Society of Sanitary and Moral Prophylaxis, the first U. S. organization set up "to protect the community against the spread of venereal disease." Its national activities were affiliated with The American Social Hygiene Association in 1916.

In addition to The American Social Health Association's family life education activities, the agency sponsors and conducts research in adolescent sexual behavior to assist professional workers and to help parents understand motivations for irresponsible or delinquent behavior.

The Association's long-time concerns about venereal disease control and suppression of prostitution are carried on in the light of changing trends. Through community investigation, the Association determines the extent and availability of prostitution and the involvement of teen-agers in sex offenses and other forms of delinquency.

These unique community investigations are made at the request of the Armed Forces, state and federal health services, municipal governments and citizen committees.

Through the years, the Association has given leadership to the movement for venereal disease control both nationally and internationally. Serving as a vital source of information, the agency has helped overcome public apathy about venereal disease as a social and health problem and has consistently stressed the importance of venereal disease education, better casefinding and more accurate reporting.

In cooperation with The Association of State and Territorial Health Officers and The American Venereal Disease Association, the American Social Health Association annually collects and publishes a joint statement on national statistics and trends in venereal disease. Last year's statement pointed up the rising incidence of the disease among teen-agers and the need for increased reporting by private physicians. This information is



used to promote improved venereal disease programming by state and local health departments and to keep state and federal legislative bodies informed of program needs and required support.

"The shift from hygiene to health" said Conrad Van Hyning, the Association's executive director, "emphasizes that we are keeping up with the times. The Association has always been a pioneering national agency working in new and sometimes not popular nor well understood causes. Its latest pioneering effort is an attempt to enlist the educational forces of the nation in the conscious preparation of children and youth for their responsibilities as members of their families, their communities, and their country."

#### INTEGRATION OF DENTISTS INTO HOSPITALS

Dentists must work closely with physicians in the hospital or they "will become completely isolated and left behind in the march of modern medicine", two San Francisco hospital officials warned recently.

The hospital is the best place for dentists and physicians to get together because it is "the central health agency of the community," according to Mark Berke, executive director, and Sidney Epstein, D.D.S., chief of the department of dentistry, Mount Zion Hospital and Medical Center, San Francisco.

Their articles published in the January 16 issue of the *Hospitals*, Journal of the American Hospital Association, and the January issue of the Journal of Oral Surgery, Anesthesia, and Hospital Dental Service, published by the American Dental Association.

Calling for greater integration of dentists into hospitals, the authors pointed out that neither dentists nor hospitals so far have done much about getting together.

The fault lies on both sides, according to an accompanying editorial in *Hospitals*, which noted that "The dentist too often looks at the mouth as if there were no man. In the hospital too often is the man looked at as if there were no mouth."

Hospitals must recognize the mouth and dentists must recognize "the inseparability of mouth and man" and join in the team approach to the care of the whole man, the editorial continued.

Mr. Berke and Dr. Epstein pointed out that dentistry stands on the sidelines of medicine, much as did psychiatry not so long ago. Unless dentistry moves closer to medicine, it runs the risk of having medicine expand to include dentistry, especially as the importance of the mouth and teeth to the general well-being of the patient becomes more readily understood and accepted.

However, before dentistry can move into hospitals they have to make some changes, the authors said. They need to acquire modern dental equipment, to train anesthetists and operating room personnel in special dental problems, and to initiate teaching and research programs for dentists, including internships, residencies and postgraduate courses.

The authors also suggested that dentists give more concern to the fact that the first signs of many diseases appear in the mouth; that physicians recognize that many diseases are accompanied by oral health disturbances; and that complete dental examinations be a part of routine physical examinations.

Hospital dentistry should be more than just oral surgery, the authors said. It should be possible "to take a patient who requires extensive restorative dentistry and to complete the dental rehabilitation in one lengthy session," through the use of expert teams of dentists, anesthetists, and dental assistants.

#### HEARING AID INDUSTRY ADOPTS CODE OF ETHICS

The hearing aid industry has asked itself the classic question "What's in a name?" and is getting an answer that there is a lot.

Several weeks ago the industry issued a voluntary Code of Ethics for retailers, distributors and manufacturers of hearing aids and components. One section deals with ambiguous company names which give an aura



of a medical, educational or research nature to a commercial enterprise. Such words as "Center," "Institute," or "Bureau," when not properly qualified, can cause prospects for hearing aids to respond more readily to advertising and other promotion by suggesting the firm is non-commercial. As such, it could be considered similar to "bait" advertising.

Until now there has been no set of standards that would guide the industry on this and other questions, so that such names have been prevalent, especially because the industry is highly competitive. If the dealer down the block has been getting special advantage from this type of name, the temptation to counter him with something similar is great.

Now, however, the Code of Ethics establishes a common base. Within days after the twelve-page document was issued to retailers, word was received from many that they were voluntarily changing their names. A Florida dealer is immediately dropping the name he has used for years, which had the name of the city followed by "Hearing Center." He will substitute his own name followed by "Hearing Aid Company." An Oklahoma dealer is inserting the word "Aid" between "Hearing" and "Institute," thus making it crystal-clear that he is selling hearing aids, not treating persons or doing research. Similar changes have been registered from states as distant as Hawaii.

A spokesman for the industry reported that this prompt reaction is especially heartening because no emphasis was placed on the section of the code dealing with this subject. Dealers themselves perceived that the names of their firms were contrary to the new standard and immediately and voluntarily registered their changes. The spokesman pointed out that a company's name is one of its most precious assets and any revision is undertaken with great care. In addition, there is the costly and tedious process of preparing new signs, logotypes, letterheads, etc.

The Code of Ethics was prepared by the Hearing Aid Industry Conference, the national trade association, and the Society of

Hearing Aid Audiologists, the national dealer group. It was in preparation for more than a year. It is very specific about many advertising and selling questions, including "bait" advertising, guarantees and warranties, testing, endorsements, and others.

The industry has stated that this voluntary document is the best guarantee to the public of ethical service and has requested that the public, as well as all interested organizations, assist in policing it by reporting any questionable practices.

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#### HEALTH INSURERS CAN PROVIDE COVERAGE FOR OLDER CITIZENS

Health insurance companies are demonstrating effectively their capacity for providing medical, surgical, and hospital care coverage for older people, according to Robert R. Neal, General Manager of the Health Insurance Association of America.

Mr. Neal, speaking in Washington, D. C., during the annual meeting of the American Association of University Teachers of Insurance, emphasized that the insurance carriers are making rapid strides in developing and offering health insurance programs specifically designed for people age 65 and over. Among the plans offered to older persons who want assistance in meeting their health care expenses, he named the following:

- "1. Continuation of insurance on older active workers under group insurance plans.
- "2. Continuation of group insurance on retired workers and their dependents, generally with part or all of the premium paid by the employer.
- "3. Continuation on an individual-policy basis of coverage originally provided by group insurance.
- "4. New issuance of group insurance at advanced ages.
- "5. Continuation into the later years of individual insurance bought in the productive years.
- "6. New issuance of individually-purchased policies at advanced ages.



"7. Issuance of insurance that becomes paid-up at age 65."

Many health insurance companies have been writing policies in line with or similar to these plans for some time, Mr. Neal brought out. The companies, he said, are gearing their efforts to the need for providing more and better coverages at a cost which the public can pay. Looking to the future, Mr. Neal added:

"It is reasonable to assume that within a few years most private health insurance carriers will have acted to eliminate the older policyholder's anxiety that his coverage will not be renewed when he reaches age 65. Moreover, it can be expected that coverage of persons over age 65 will increase more rapidly in the future."

The growing complexity of the social and economic consequences of health insurance has been attended by increasing Federal Government interest in the operations of insurance companies. As recent evidences of the extent of federal activities of considerable concern to the insurance business, Mr. Neal listed these actions: The creation of the Senate Labor subcommittee on problems of the aged and aging, and the public hearings held this year by that group; the introduction of the Forand Bill H. R. 4700, which would append health insurance to the Social Security program; and congressional authorization of the White House Conference on Aging to be held in January 1961.

There is a very real danger, Mr. Neal pointed out, of federal intervention in the field of health insurance. He told his audience:

"Should that intervention occur, the government would take over a large and important area which has been the responsibility of the enterprise system. Obviously, the establishment of federal administrative machinery to operate health insurance programs could possibly be the forerunner of government intervention in other fields of insurance. Workmen's compensation, the casualty lines, and life insurance could and would likely become targets of further federal encroachment."

Mr. Neal summed up the position of the health insurance business, as regards possible national government intervention in health insurance operations, in the following terms:

"Admittedly, the issues involved are broad, and it is not easy to deal with them. The main objective to be served is the public interest. The basic issue, then, is whether the voluntary system, which has achieved so much for so many millions of people in so short a span of years, is to be permitted to demonstrate that it can and will continue to serve the public interest with greater effectiveness and at lower cost than can the cumbersome, rigid, and expensive methods which would be employed by those who advocate governmental intervention."

#### A.M.A. TO STUDY MEDICAL CARE COSTS

A "Commission on the Cost of Medical Care," to delve into every phase of medicine where cost or spending is involved, was announced recently by A.M.A. An initial grant of \$100,000 was appropriated to launch the study.

"This study-project is being undertaken," said Dr. Louis M. Orr, president of A.M.A., "because the American public is spending increasing amounts of money for all types of medical care. These expenditures involve the people's lives, health, and pocketbooks. We would like to find where economies may be achieved in the best interests of the patient. The commission will analyze the cost picture from every angle and try to come up with some sound advice and suggestions."

The commission will serve as a "little Hoover Commission" to study all medical care costs, including doctors' fees, hospital charges, nursing cost, drug expenditures, and health insurance premiums.

Dr. Orr said that American medicine is "tackling the cost problem in order to help people better meet their obligations when illness strikes, and to help clarify the confusion that exists relative to such cost."

The A.M.A., he said, is "well aware that more physician-patient relationships have been strained by a misunderstanding about



fees than perhaps any other disagreement. Is such misunderstanding due to lack of frank discussion between doctor and patient, or is there some other reason? A patient has every right to know why he needs treatment or surgery, what it will consist of, and what it will cost—particularly where major services are rendered.”

#### ATLANTA CONFERENCE ON AGING

Community health programs for the nation's aging population were discussed during a regional conference on aging in Atlanta, Ga., March 7-8.

To be held at the Dinkler Plaza Hotel, the meeting is sponsored by the American Medical Association's Committee on Aging and the medical societies from North and South Carolina, Tennessee, Alabama, Georgia, and Florida.

In addition to doctors, participants will include representatives of women's organizations, churches, labor, industry, government, and other groups interested in the health of aging.

Purpose of the conference, according to Dr. Frederick C. Swartz, Lansing, Mich., chairman of the A.M.A. committee, is to explore the opportunities for positive health and meaningful living among elder persons. The results are intended to develop a more realistic attitude toward America's aging population.

He said, "With nine per cent of the nation's population now over 65 and the percentage increasing yearly, it is important for every person to give thoughtful consideration to the aging process and its implications—to individuals and society alike."

#### CORRESPONDENCE

WSFA-TV

CHANNEL 12 NBC — ABC

Montgomery, Alabama,  
January 13, 1960

Dr. William M. Carter, President  
Medical Association of the State of Alabama  
Repton, Alabama

Dear Dr. Carter:

We are indeed pleased to inform you of a new program our station will be carrying

in the very near future. This program will originate from the National Broadcasting Company and will be offered to its affiliated stations.

The name of the program is "Post Graduate Medicine." It will be a weekly series of one-hour programs for graduate, practicing physicians. Its purpose is to meet the nation's need for keeping the American medical profession constantly updated in a field of great discovery. It will be presented with the cooperation of leading medical organizations, whose names will be announced at a later date. It is planned that there will be a system of college and professional credits for the viewing physician.

This will be a learning course of sober intensity, designed to be of great value to the physician and thereby enable him to serve his community better.

The program will be presented each Saturday morning from 7:00 to 8:00 A. M., Montgomery time, this time period deemed most desirable for reaching the physician before he begins his busy day.

The series will be divided into two parts: The first will start April 16 and run through June 4; the second series is planned to start September 24 and run through October 29.

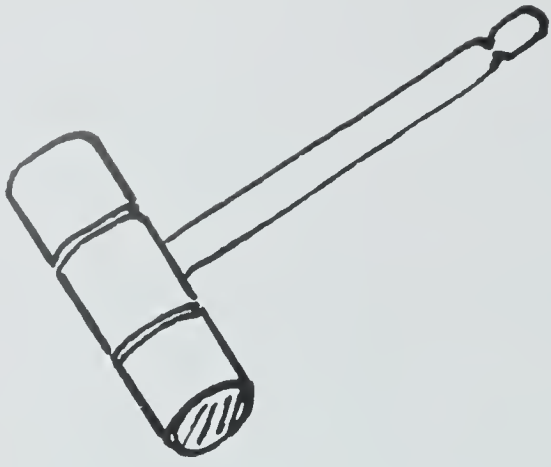
I hope you will inform the members of the Medical Association of the State of Alabama of this program; and if we can supply you with any additional information regarding the program, we will certainly be happy to do so. We are looking forward to this and sincerely anticipate its being one of the most worthwhile and outstanding features television has had the opportunity to offer.

Sincerely,

Signed:

Carter Hardwick





# President's Page

## THIRTY YEARS AGO

THE year 1930 marked the passing of the Association's yearly book release known as Transactions. It contained the proceedings of the annual session, the papers that had been read at the meeting, and the roster of members. It had its origin almost with the beginning of the organization, and many deplored its end as the passing of a friend of many years standing. When Dr. George Ketchum, Secretary of the Association in 1852-1854 and its President in 1874, said "We have given a volume of transactions to the world that we may be justly proud of as a first attempt and as a prelude to what we may do in the future," he undoubtedly referred to the proceedings of 1851, for that volume and those of 1852, 1853 and 1854 are in the archives of the Association. Then came the period of the Association's dormancy occasioned by the events leading up to and culminating in the War Between the States, but from 1868 the record is unbroken—a monthly journal, and transactions in a different form, having taken the place of the volume known so long by so many.

The publication of a journal by the Association had been considered by it on a number of occasions—even as far back as 1885 when Dr. Benjamin H. Riggs in his Message as President said: "Our volume of proceedings reflects credit upon the Association and serves to spread its reputation. It is superior in size, style, contents and cost to that of any other state, so far as I am aware," but "it may be well for us to consider the publication of a monthly journal in place of such a large and expensive volume of transactions."

The Board of Censors, in commenting on this, said: "We believe the publication of a monthly journal would involve an amount of expense beyond our means to sustain. Its consummation must be left to the future, with the hope that the day is not very far off when it will become feasible."

Then again, in 1924, when Dr. W. W. Harper of Selma was president, he revived the subject with the declaration that "The heart of every organization is its journal. A live journal, owned and operated by the Association, is an absolute necessity." The Board of Censors was sympathetic but still was doubtful that the Association could successfully finance a journal and publish the volume of transactions at the same time.

However, by 1930, it seemed that most obstacles had been removed, for it was then that a committee was named to consider the matter, the committee to report to the Association at its next annual session. The committee recommended that a monthly journal be published; that its name be The Journal of the Medical Association of the State of Alabama and of the State Board of Health; and that the State Board of Censors be authorized to take all necessary steps looking to the consummation of this plan.

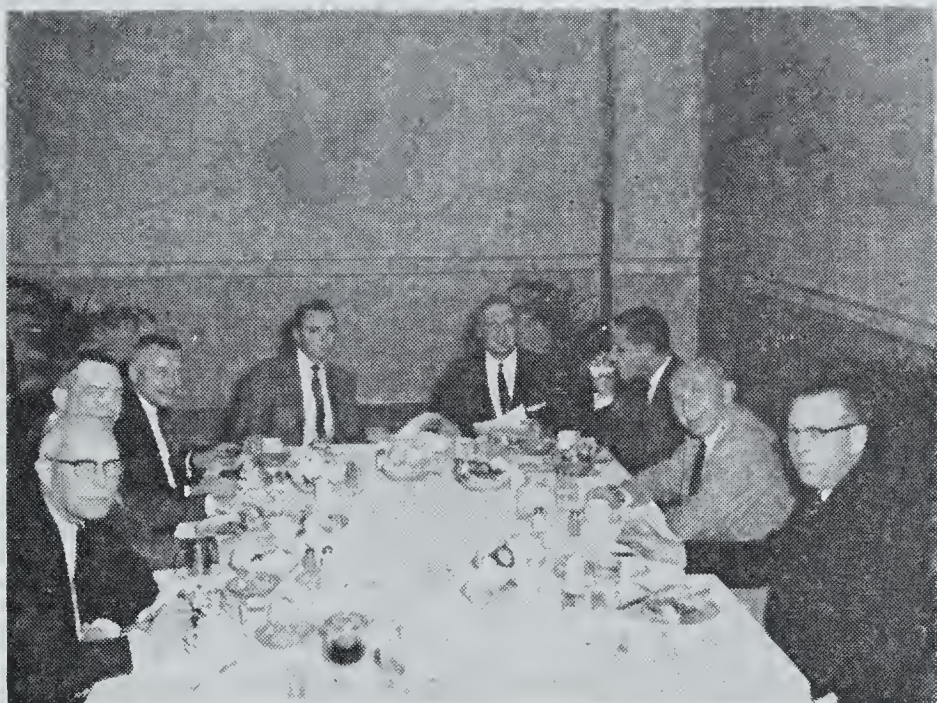
Thus, a new baby in the field of medical literature was born, its date of birth being July 15, 1931, when the first number of Volume 1 of the publication went into the mail. In May of 1932 the name of the Journal was shortened by limiting its title to The Journal of the Medical Association of the State of Alabama.

J. M. A. ALABAMA





## ORGANIZATION SECTION



**SERVICE AWARD**—Members of the William Crawford Gorgas Award Screening Committee, composed of members of the medical and journalism professions and functioning under MASA's Committee on Public Relations, met at the Whitley Hotel in Montgomery on January 23 to evaluate the credentials of the candidates nominated for the 1960 honor. Shown above are (left to right) Dr. W. D. Anderson, Tuscaloosa; Dr. L. L. Hill, Montgomery; Dr. E. L. Strandell, Brewton; W. V. Wallace, MASA; Dr. J. Michaelson, Foley; W. A. Dozier Jr., MASA; Dr. D. G. Gill, Montgomery; and Louis A. Eckl, Editor of the Florence Times.

The committee selected for recommendation to the Public Relations Committee the names of three Alabamians that have been outstanding in the field of health. Nominees for this year's award, as well as those nominated in previous years, can be re-nominated by either a local county medical society, newspaper or voluntary health agency, but the nomination must be made to the Medical Association of the State of Alabama through a county medical society, it was pointed out by Chairman J. Michaelson.

### COMMITTEE ON PUBLIC RELATIONS

The names of the three nominees recommended by the screening committee for the William Crawford Gorgas Award were presented to the Committee on Public Relations when it met on January 24 at the Association Building.

Meeting with Chairman J. Michaelson were Drs. L. L. Hill, Montgomery; John A. Martin, Montgomery; John Chenault, Decatur; C. A. Grote, Jr., Huntsville; T. C. Donald, Jr., Anniston; E. B. Glenn, Birmingham; L. D. McLaughlin, Ozark; R. O. Rutland, Jr., Fayette; Leslie G. Cole, Talladega; L. R. Burroughs, Jr., Birmingham; E. L. Strandell, Brewton; D. L. Cannon, Montgomery; and J. D. Bush, Gadsden.

The Committee unanimously voted to give the 1960 William Crawford Gorgas Award to Mr. Paul Johnston of Birmingham. Mr. Johnston, an attorney and civic leader, has worked to increase funds for indigent medical care and to provide facilities for the treatment of mentally ill.

He headed a citizens committee which was formed in October, 1957 to create additional facilities for patients financially unable to pay for needed medical treatment.

It resulted in an emergency appropriation of \$179,000 for this work in May, 1958.

He was chosen Birmingham's man of the year in 1958 for his work in this field and in mental health work. He served as president of the Alabama Association for Mental Health from 1955 until 1959.

Mr. Johnston is the third person to receive the award. Other recipients are Sen. Lister Hill and Marc Ray Clement, a Tuscaloosa attorney.

### Orientation Program

A report on the proposed changes in the committee's orientation program was given by Dr. L. L. Hill. He stated that an extensive study of other states and county medical societies' orientation programs had been made by his sub-committee, and that the Texas





PUBLIC RELATIONS COMMITTEE IN ACTION

mandatory program seemed to be the most adequate one. Leaflets describing the Texas program, along with ones describing the proposed changes in the Association's present program, were distributed to the committeemen.

Opposition to making such a program mandatory was expressed before the committee, but the members agreed that this was the only way of assuring attendance at such a meeting.

The committee then endorsed Dr. Hill's proposed compulsory orientation program and moved that it be recommended to the Board of Censors.

#### Essay Contest

This year students are showing a greater interest in the essay contest, Chairman John Chenault stated in his report to the committee.

This is due to a larger number of schools participating in the contest and to the fact that the State Board of Education has endorsed the contest, he said.

Because of this new interest, he explained, the deadline for entries was extended from December 31 to February 15.

It was announced that Professor Jack P. Montgomery of the University of Alabama had been appointed chairman of the reading committee.

#### Medical Reporter Award

Chairman of the sub-committee for the Medical Reporter Award, Dr. Bush, announced that his group had considered all nominees for the honor and had voted to recommend Miss Julia Holley of the Birmingham News for the inaugural award. The committee then voted unanimously to give the award to Miss Holley.

Miss Holley, a science-medical reporter, recently was awarded the Jefferson County Medical Society's outstanding public service citation for her accurate reporting of scientific stories. She is the third person in the 82-year history of the local medical society to receive the award.



COMMITTEEMEN STUDY WINNING MEDICAL REPORTER'S PORTFOLIO



### Inter-Professional Council

Dr. Martin reported that he had met with representatives of six professional organizations on January 20 for the purpose of forming an Inter-Professional Council. The purpose of the council, he stated, would be to link together in one organization the Medical Association of the State of Alabama, the Alabama Veterinary Medical Association, the Alabama Dental Association, the Alabama Bar Association, the Alabama Nurses' Association and the Alabama Pharmaceutical Association to work together for community good.

Dr. Hill announced that representatives of the various organizations would meet that afternoon to organize such a council and adopt a constitution and by-laws.

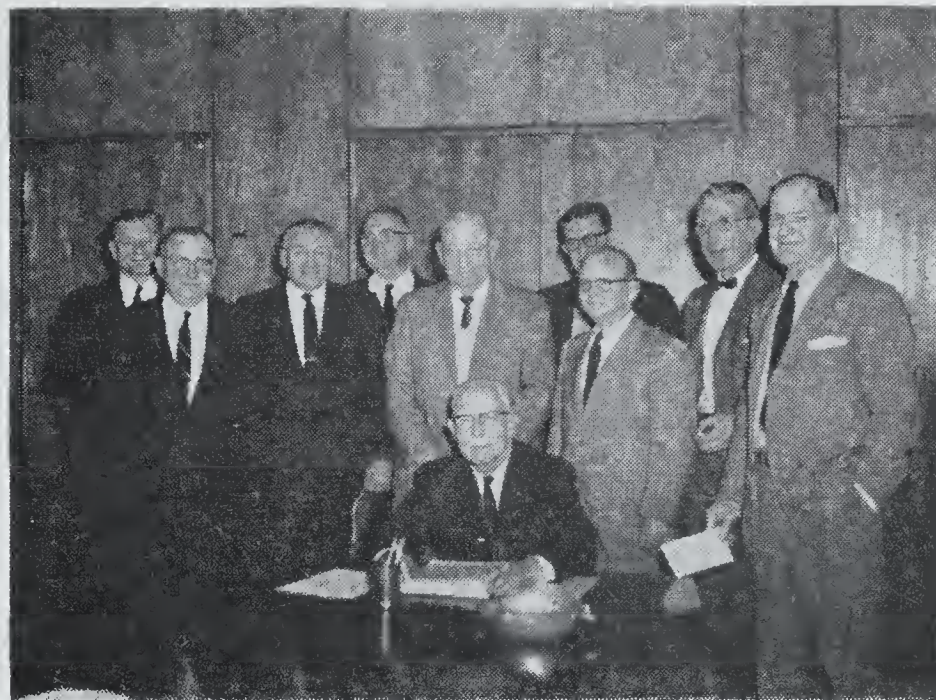
Each organization participating in the council would be required to pay membership dues, he said. The committee voted to join the council and authorized Dr. Martin to spend up to \$25.00 for dues the first year in the Inter-Professional Council of Alabama.

### Athletic Injuries Conference

In reporting on the Athletic Injuries Conference, Dr. Michaelson stated that in the past the officials of the Coaches Association had shown little interest in the conference. The question arose as to the effectiveness of such a conference. Dr. Donald suggested a survey of the high school coaches be made to determine if such a conference should be continued; if so, when and where it should be held. Dr. Rutland suggested that out-of-state speakers be invited to participate in the program as a drawing card.

If the survey shows that the high school coaches desire such a conference, it was suggested that the sub-committee work closely with Coach Paul Bryant of the University of Alabama in planning the program.

Dr. Michaelson appointed Dr. Rutland to head the survey team.



**FINANCE COMMITTEE**—Members of the Committee on Finance met at the Association Building on January 24 and adopted a proposed budget for 1960. Chairman W. A. Anderson (seated) of Tuscaloosa is shown above with (left to right) Drs. W. E. White, Anniston; E. B. Glenn, Birmingham; E. L. Strandell, Brewton; W. J. B. Owings, Brent; B. F. Thomas, Sr., Auburn; W. R. Carter, Repton; W. L. Smith, Montgomery; R. P. Stock, Childersburg; and J. H. Meigs, Anniston.

### COMMITTEE ON A. M. E. F.

Plans for the 1960 American Medical Education Foundation fund drive were formulated at a meeting of the Committee on A. M. E. F. on January 17 at the Association Building in Montgomery.

This year's campaign will be conducted through the Woman's Auxiliary in counties where they are organized. In the other thirty-five counties the drive will be handled by the Committee on A. M. E. F.

The reason for this, Chairman D. E. Owensby said, is to help the Alabama Auxiliary in competing for the inaugural Ethel Gastineau Award, a traveling trophy to be awarded to the state auxiliary whose efforts have been the greatest on behalf of A. M. E. F. this year.

The campaign will be launched in May and members will be asked to contribute \$25.00 to the fund. A second appeal will be made in December.





## ASSOCIATION FORUM

# THE YOUNG AESCULAPIAN

By

Tinsley R. Harrison, M. D.,

Birmingham, Ala.

Americans are usually considered to be doers rather than thinkers. This is not surprising in view of our relatively recent emancipation from the frontier, where sheer survival often depended not on thought but on action. However, during the past century we have begun to experience, as did Athens, Western Europe, and Britain before us, the impact of economic growth and of a rising living standard on our cultural mores. Thus, in medicine we now have not only persons who make fundamental scientific discoveries but also scholars and philosophers. To mention a few of the possible many we may cite the senior Holmes, Osler, Weir Mitchell, James B. Herrick, and Alan Gregg. It is to this expanding cultural tradition that Dr. Major belongs. A lecture in his honor might properly deal with some aspect of medical history, a subject to which he has made important contributions. There is little I could say in this field which is not familiar to Dr. Major, his associates, and pupils. But Dr. Major's interests have transcended medical history. He has had an abiding concern with clinical medicine and with those who will

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From the Department of Medicine, Medical College of Alabama.

The Ralph H. Major Lecture, read at the University of Kansas School of Medicine, June 13, 1959.

*Medicine exists to serve the public. The public will be poorly served if programs are adopted which tend to drive adventurous young minds into other fields. It will be best served if we keep what we have that is good and apply the experimental method to the solution of those problems which involve only a minority of patients but which are of such gravity as to create deep social unrest. Of numerous experimental approaches which might be devised, I would suggest one: that we attempt to turn over to the medical schools those areas, whether economic, geographical, or professional, in which our otherwise good system of practice is not functioning effectively. The expense of so doing, while large, relative to present medical school expenditures, will represent a small fraction of our annual national health cost.*

practice it—medical students and house officers. His book on physical diagnosis furnishes ample proof of his interest in the young Aesculapian, who is the subject of my discussion.

The theme will deal with some of the problems our young man either faces today or



will face in the future. These are of two general types: those which affect him directly and immediately and those which concern society primarily but will determine the culture medium in which our young Aesculapian will grow or shrink, as the case may be. Before considering these problems as such, we may wish to look at some aspects of the broad background of our profession.

Medicine is concerned with knowledge of health and disease; not only with the application of such knowledge (prevention and care) but also with its acquisition (research), its dissemination (teaching), and its synthesis (ethics). To look at one facet only is to forsake our heritage from Hippocrates. He not only practiced the best medicine of his day but contributed new knowledge through his lucid descriptions of disease, and was perhaps the greatest medical teacher of all time: "I will teach them this art if they shall wish to learn it." His supreme contribution was his formulation of those principles which express the obligation of the physician to his patient. Attempts to solve the current problem in one of these broad areas without due attention to the others have been and, in my opinion, are likely to be either fruitless or, at best, only partially successful.

#### **Facets of Medical Care**

Preventive and curative medical care have three interrelated aspects: quality, cost, and availability. The availability of care has two facets, the number and the distribution of medical personnel and of healing facilities. In general, the public has medical care of steadily improving quality, readily available, at a reasonable cost. However, there are exceptions. Some care is of poor quality and not all of this is provided by charlatans or quacks. A few people are not able to pay for any medical care, and for many persons some illnesses involve an expense so overwhelming that neither direct nor insurance payment can provide an adequate solution. In many localities physicians are so overburdened that patients cannot receive the amount of time they desire or deserve, while in certain

rural areas the number of doctors is so small that some patients receive almost no service at all. It is because of these several deficiencies, which involve a minority of those who are ill, that large and influential groups of laymen are advocating drastic changes in our whole medical milieu.

It would seem that our problem as a profession is to keep those large segments of our present system which are effective and to face realistically the unsolved problems involved in the remaining smaller segments. In this endeavor we should eschew alike the roles of a Candide, who regards our situation as the best of all possible medical worlds, and of a Cassandra, who foresees only an evil outcome from anything we now have or shall do. Rather we should lean on our scientific training and encourage pilot experimentation in order that ideas may be subjected to testing. It is unlikely that the solution to difficult problems will spring full-blown from the brow of any Jove, whether he be physician or layman. But, given enough time, the experimental method should provide the answers to these problems. The time may be short. It may be later than we think. Our European and Latin American friends have already adopted medical plans which most of us deem undesirable for our people. The effective method of avoiding this in the United States may be that of instituting experiments to seek answers based not on preconception but on observation. We shall not solve pressing problems by denying their existence.

#### **Suggestions for Experiments in Medical Education**

My purpose is to offer suggestions concerning certain experiments which would seem worth doing. Regardless of their outcome, we shall have learned something. Most of these experiments involve medical students and recent graduates, who hold the keys to the medical future. We may therefore consider some of their problems.

Concerning the number of physicians needed in the United States there is a wide difference of opinion. For several decades the ratio to population has remained essentially



constant at a little more than 130 per 100,000. Some believe that the only expansion needed should be parallel to the increase in population because medical service of today is more efficient, with better communication (telephone), better transportation (roads), patients coming to physicians instead of the reverse, new diagnostic methods, and more technical personnel.

The chief reasons why I believe that there should be a much greater increase in the number of doctors are as follows: 1. Many physicians are no longer available to the general public as practitioners. This group includes physicians on military duty, pathologists, radiologists, teachers, investigators, interns, residents, etc. 2. There are more older physicians. Physicians will inevitably be affected by the mores of our society, which are tending toward a shorter work week and an earlier retirement age. 3. Modern scientific advances require a progressively larger number of medical man-hours in order to bring the public their benefits. One need think only of cardiac catheterization, the artificial kidney, and the newer operations on the cardiovascular system. 4. The rising economic and educational level is creating an additional desire on the part of the public for more medical service, preventive as well as curative. 5. Each step in medical progress means more older persons who have more illness and require more attention. Although arguments may be advanced for the opposite point of view these facts lead me to the conclusion that we need a large increase in our physician/population ratio.

This brings us to the problems of recruitment. Although the total number of applicants still exceeds the available places in medical schools, the discrepancy is lessening, and many believe that the number of well-qualified candidates is already deficient. Alan Gregg said: "In lengthening the preparation for the practice of medicine by two years of obligatory military medical service we may price ourselves out of the market of well-qualified young men." During the past several years I have asked many students and

recent graduates their opinions about the deterrents to a medical career. Most mention such factors as the competition from physics, engineering, and other sciences, but practically all are agreed that the two main factors are time and expense. Neither of these problems is insoluble.

There is doubt that we can compete with those nations on the other side of the Iron Curtain if we continue to educate our college and graduate students on a three-fourth time basis. Premedical students might have two summers, starting immediately after completion of secondary school, and one academic year devoted largely to cultural subjects. They could then be tentatively admitted to medical college for a full calendar year of natural science given at the medical school tempo. Those who achieved a mediocre but minimally acceptable record might be denied final admission to medicine but given a passing grade and returned to their academic colleges. Those meeting higher standards might enter medical school after the two full calendar years plus one summer of training. The medical course could then proceed continuously (with brief vacation periods) for four full calendar years, the last consisting of an internship, with the educational experience supervised by the medical faculty. Throughout the entire course certain cultural subjects should be required. By this means the present nine-calendar-year requirement for pre-medical, medical and intern training might be shortened to about six years, with little or no loss of quality. This proposal is somewhat similar to the new plan at the Johns Hopkins Medical School. It involves a program which in some respects is intermediate between the present British and the American methods. It might or might not prove desirable, but we shall never know unless some schools are willing to try it.

Such a plan would tend to overcome the barrier of time but might aggravate the economic deterrent to medicine, because there would be no chance for gainful employment during long vacations. This could be met either by a loan contract coupled with cer-



tain changes in the tax laws or, in the absence of such changes, by a scholarship with repayment pledge. Thus during his undergraduate and house-officer period a student who desired to participate might be advanced several thousand dollars. Repayment would depend not only on the amount received but also on the future annual net professional earnings. So long as such income was below a specified minimum, no obligation would exist. The person who became a medical missionary or chose an underpaid research career would owe nothing. The person who acquired a highly remunerative practice would be pledged to repay the school a relatively large sum annually, while the modestly successful physician would pay yearly a much smaller percentage of his net income from his practice (table 1).

profits would appropriately come from those who had achieved the greatest financial success from their medical education. Tax deductibility of repayments would remove much of the objection to them.

Various other and perhaps better methods of overcoming the time and financial barriers to a medical career can be devised. We shall not know the best procedures until a number have been tried. Assuming that some such plans will enable us to attract a sufficient number of well-qualified applicants, the perennial problem of the curriculum will remain. A few schools have had the courage to initiate changes, but in most of them the curriculum has remained relatively fixed during the half-century since the Flexner report. Neither the almost miraculous ad-

TABLE 1.—Proposed Plan for Financing Medical Students and Medical Schools\*

	Income of Graduates, Thousands	% Pledged to Medical School	1st Yr.		After 10 Yr.		After 20 Yr.		After 30 Yr.		After 40 Yr.	
			Prob-able No. in Group	Income from Pledges, Thousands	Prob-able No. in Group	Income from Pledges, Thousands	Prob-able No. in Group	Income from Pledges, Thousands	Prob-able No. in Group	Income from Pledges, Thousands	Prob-able No. in Group	Income from Pledges, Thousands
Net income of graduates from professional work (before taxes)	Less than 10	0	All	0	300†	0	500†	0	500†	0	1,000†	0
	10	1.0	0	0	300	30	300	30	300	30	500	50
	15	1.5	0	0	200	45	500	112.5	700	157.5	500	112.5
	20	2.0	0	0	100	40	400	160	700	280	800	320
	30	3.0	0	0	80	72	200	180	500	450	700	630
	40	4.0	0	0	20	32	90	144	200	320	400	640
	50	5.0	0	0	0	0	10	25	100	250	100	250
Total income from pledges, thousands	---	---	---	0	---	209	---	651.5	---	1,477.5	---	2,002.5
Annual cost of grant fund, thousands‡	---	---	---	1,000	---	1,000	---	1,000	---	1,000	---	1,000
Annual loss or gain, thousands	---	---	---	1,000 loss	---	791 loss	---	348.5 loss	---	477.5 gain	---	1,002.5 gain

\*Classes are assumed to be 100 each. Maximal grant per year \$2,000. Maximal total grant per person \$10,000. Various assumptions entirely arbitrary to illustrate general principles involved. Sums advanced and required repayment pledges might be less or more, if desired.

†Death, total disability, and scholastic failure would cancel grants. Voluntary withdrawal from medical school would involve indebtedness for sums received, plus interest.

‡Assuming that each student accepts the maximum yearly for 5 yr.

The details of such a plan might well vary from one school to another, but the general principle would seem to justify an experiment. About 90% of the students and house officers with whom I have discussed this plan have said that they would desire to participate in it. A school would need large additional funds during the first few years in order to initiate the program, but eventually might earn handsome profits from the continuing annual payments by its alumni. Such

vances in the basic medical subjects, nor the emergence of the full-time system, nor the evolution of the clinical disciplines—or, at least, some of them—from empirical, rule-of-thumb darkness into intellectually respectable sciences has caused much change. Despite two world wars, revolutionary upheavals in government for most of mankind and the advent of the atomic age, this Gibraltar has held firm. Like Lot's wife, our curriculum prefers to look backward. One may



only add that while it deserves her fate, it is more likely to become a pillar of ridicule for future generations. Our curriculum must be a Jezebel, to have so many admirers at such an advanced age.

#### Aims of Curriculum

Certain suggestions for curricular changes aimed at reduced time without loss of educational quality have already been mentioned. We may next consider the aims of the curriculum.

Nearly all would agree that a strong feeling of responsibility for his patient is the first mark of a good physician. Such motivation can only come from contact with patients. Yet, despite his deep yearning for it, the student is largely denied this until his third year in medical school, and in many places is allowed no real responsibility until he becomes an intern.

I would be the last to advocate any decrease in emphasis on basic principles of science. About 60 years ago Osler said: "To cover the vast field of medicine in four years is an impossible task." When we consider the subsequent growth of knowledge, the task becomes ridiculous. All we can hope to teach students are certain basic attitudes toward learning and toward patients, some basic principles, a few techniques which every doctor does or should use, and a reasonable familiarity with the more important diseases. My plea is not to substitute clinical empiricism for basic principles. Facts are soon forgotten, and, in any case, the so-called facts of today often are the discarded myths of tomorrow. May I quote Osler again: "Superfluity of lecturing causes ischial bursitis." Against the undoubted advantage of the lecture must be cited a serious disadvantage. It conditions the student toward a method of learning which will not be readily available to him during his remaining professional career. When he learns by reading about the problems exemplified by patients he has seen, the opposite is true. He is being taught to utilize a method which will be fruitful throughout his life. One procedure

is instruction; the other is education.

It is far more important for a student to understand the Henderson-Hasselbalch equation than to memorize the eponyms of the many ocular signs of thyrotoxicosis. The issue involves the best procedure to create the desire to understand the Henderson-Hasselbalch equation. For this purpose it would appear obvious that the demonstration of two patients with equally elevated blood bicarbonate levels, one of whom has respiratory acidosis and the other metabolic alkalosis, is far more effective than a lecture. The failure of our preclinical and clinical teachers to turn their talents toward mutual efforts to achieve unified objectives is one major reason for the absurdity of the present medical curriculum. Perhaps the most effective ultimate remedy will be long, loud, and continuous protest from the students.

#### Decision Regarding Size of Medical School

Should we decide to produce many more physicians, we shall have to choose between larger schools, new schools, and new branches of existing schools. Experience at six different medical schools with classes of varying size leads me to believe that a medical school is like an atomic bomb in tending to undergo intellectual disintegration, once a certain critical mass is exceeded. A large number of additional schools or new branches will be somewhat more expensive but will ultimately bring much greater benefits, in terms of the impact of these new centers on the quality of medical practice in surrounding areas. Patients needing complex and highly expensive procedures which are only feasible in medical centers will be able to receive such service nearer their homes if we have many small schools rather than a few large ones.

In the development of new schools every effort should be made to achieve an optimal relationship between them and the practicing profession. Wise institutional policies, coupled with widespread participation in academic activities by well-qualified volunteer teachers, can avoid the unfortunate tensions which have sometimes existed in the past.



Concerning internship and residency training, two principles appear important. Every effort should be made to persuade, but not to compel, men who are entering general practice to secure more than the usual one year's hospital experience. Since the economic factor is the main deterrent, the loan with repayment pledge plan which has been suggested might be valuable in this respect. Schools might encourage two recent graduates located in the same small community to form partnerships, with the two partners returning for advanced training during alternate years.

Some of the specialty boards have begun to introduce more flexibility into their requirements. The schools should encourage this in order that men with different interests may have optimal opportunities to pursue them.

Aside from these several matters, which are of immediate personal concern to our young Aesculapian, there are broad problems which he and his colleagues must attempt to solve. If they fail in this endeavor they are likely to encounter uncongenial solutions arrived at by others. I am not wise enough to offer definitive solutions but shall suggest certain general principles on which such solutions might be based.

The potential quality of medical care depends on research and education, which determine the upper limits and which are functions of the medical school. However, the actual quality which the public receives depends also on the cost and the availability. The first step in overcoming certain deficiencies in availability is producing more physicians. Economic factors will then aid in the distributional problem. However, these will only become operative after several decades when many more physicians will have been trained and, in any case, are likely to be only partially effective. In the meantime, temporary plans to attempt to attract doctors to small communities are needed and here, as always in medicine, the success of therapy depends on the accuracy of diagnosis.

#### Problems of Young Physician in a Small Community

The economic barrier to rural practice is no longer a major deterrent, and the lack of facilities, while still important, is lessening as the Hill-Burton program continues. More significant is the personal aversion on the part of physicians, and especially of their wives, to living in small communities. In part, this is based on a lack of good educational and cultural facilities for children. Here the remedy must come from the towns themselves in terms of providing better schools, libraries, and recreational programs. It is unlikely that persons reared in cities will settle in villages, but many men from small towns may be willing to return. Various state legislatures are offering scholarship plans, but the towns themselves should assume responsibility. Communities needing doctors would be wise to provide premedical and medical scholarships for their outstanding high school graduates, with the stipulation that the individual after completing his training will practice in that locality for a specified minimal period. A similar program for young women to be trained as nurses and technologists would reduce that deficit of paramedical personnel, which in itself makes physicians hesitant to settle in rural areas.

Students and interns, when discussing small community practice, often cite one deterrent which many regard as of overriding significance. This is the fear that the intellectual isolation will ultimately lead to professional deterioration. The Academy of General Practice has made valiant efforts to overcome this and deserves more aid from the medical schools than has yet been forthcoming. Those schools which are situated in states with a large rural population should have additional young faculty members who could function as circuit-riding teaching consultants. They could visit the small hospitals and conduct teaching exercises centered around specific patients presenting difficult problems. The number of disciplines represented by these itinerant teachers would depend on the funds available. Radiologists



and pathologists would be especially valuable.

The mutual intellectual exchange involved in partnerships and groups tends to combat the professional isolation of small town practice. However, this trend is growing slowly, and in the meantime the various barriers are tending to aggravate the present maldistribution of physicians. Even if we should immediately decide to train many more doctors, several decades would be required before there will be enough for the law of supply and demand to overcome the rural deficit. Stopgap measures are needed.

The serious economic injustices inflicted on our young graduates during their intern and residency years have been mentioned. The following plan might partially remedy this and also serve as a temporary means of supplying doctors to certain communities gravely needing them.

Physicians and other leading citizens of such a small town might form a medical foundation and ask the state medical association for aid. The latter agency could request the medical school to persuade an impecunious resident to practice for one or more years in that community. A portion of the funds earned would be set aside and sent to the medical school as a supplementary salary when the young Aesculapian returned to continue his specialty training. If he decided not to return but to remain in the rural area these funds would be returned to the local foundation to pay for the equipment which it had initially purchased for the physician. Action by all parties should be voluntary.

To consider in detail the many possible objections and advantages of this plan would lead us far afield. I have discussed it with numerous medical and lay friends. Some have considered it visionary and wholly impractical. Others think it an excellent temporary solution to the present maldistribution of doctors. Still others believe that its possible virtues and defects will only become apparent with trial. With the latter opinion I am in agreement. To Sir Clifford Albutt's dictum that suspension of judgment should

not be confused with suspension of thought, we might add that too prolonged suspension of experiment concerning pressing problems may lead to arbitrary and *ex cathedra* solutions. In any case, it should be emphasized that these proposals are aimed at a temporary solution. When and if, as the result of an expanded educational program, permanent physicians in adequate numbers became established in a community, this extension plan would be withdrawn from that locality and instituted in another area of shortage.

#### **Rising Costs of Medical Care**

Perhaps the most difficult problems our young Aesculapian will face will be those involving the costs of medical care and the alternative methods of payment. Few laymen comprehend the reasons for the skyrocketing total national medical expense. This results in widespread blame of physicians and of hospitals. Such censure is occasionally justified but is more often due to lack of understanding.

The general inflation is only one factor and not the most important. Nurses, technologists, and secretaries not only receive much deserved larger salaries but usually now work on the 40-hour weekly schedule. Therefore, more are required to perform the same work. But medical progress has increased enormously the total work to be done. In 1900, blood chemical tests were nonexistent in hospitals. In 1920, only some half dozen different tests were done, and even these were available in few hospitals. Now almost every hospital performs 20 or more different blood chemical tests, and in the leading institutions several score are available. Thus, the number of medical technologists needed has increased tenfold. As the complexity of these procedures has increased the skill and hence the training required to perform them accurately has also risen.

During the past 30 years the number of electrocardiograms taken has increased at least 10 times, and standard records require 12 leads instead of 3. Thus, the total technician-hours required for providing modern



electrocardiographic service to a given number of patients has risen by several thousand per cent. Similar increments in radiologic, nursing, and other medical services could be cited.

Contrary to the widely accepted opinion, these advances have not decreased the amount of time a physician needs to devote to a given patient. In the case of the superior doctor, they have increased it. He wishes to see personally the x-rays and electrocardiograms of his patients. Likewise, he has to read a large number of additional journals in order to know which tests to order and how to interpret the results. Furthermore, he knows that laboratory procedures, valuable as they are, must be integrated into the total clinical pattern. He, like Dr. Major, realizes that the meticulous history and the thorough physical examination remain the *sine qua non* of accurate diagnosis and that without them these additional procedures are often useless and occasionally misleading.

The astonishing medical advances of the past several decades have thus not reduced the time required of physicians. Rather they have increased it and have made it much more effective. The proof is the 20-year increase in life expectancy during the present century. The advances in preventive medicine and the steady increase in the complexity of the facilities and in the number of medical man-hours required for diagnosis and treatment has led not only to a great advance in the quality of medical care but also to rising expense. The physician who explains these matters to his patients will receive fewer complaints about the cost of hospital and other medical services.

Even these factors are not the most important ones in the rapidly expanding total national health costs. Probably the greatest single reason is the aging of the population. Persons beyond the age of 60 years have much more chronic illness than persons under 40. The man who does not die of lobar pneumonia at age 35, but lives to have three episodes of myocardial infarction and ultimately dies at age 75 of congestive heart failure after

numerous periods of hospitalization, has indeed incurred a large additional medical expense. He has also gained 40 years of life, for which he is indebted not only to his physician and to his hospital but also to those who trained his doctor—and to Alexander Fleming who discovered the penicillin which prevented death from lobar pneumonia.

These considerations indicate that the chief culprit responsible for rising costs is medical progress. It not only brings new, elaborate, and expensive methods of prevention, diagnosis, and cure but leads to more older persons with more chronic illness. Perhaps a third of our total annual expenditure for health purposes (about 18 billion dollars) goes to care for the chronic illness of people who in 1900 would not have been alive because they would have died from an acute disease which now is either prevented or cured. If this estimate is correct, each citizen of the United States is paying annually less than 40 dollars in return for an average of 20 more years of life. Can anyone suggest a better way to spend our money?

#### **Types of Medical Expenses and Suggestions for Coverage**

In terms of economic gravity medical costs are of three types (table 2). There are the multiple small weekly or monthly expenses for services of physicians or of dentists and for drugs, or for a single brief hospital admission. The annual total of such small expenses for the average American family is somewhat less than two weeks' income. We may designate such expenditure as inconvenient.

The second type of cost is that illustrated by multiple short periods of hospitalization for a single family within a given year, or by one prolonged period involving one or more operations and the services of several physicians. Such expense, which may readily be the equivalent of several months' family income, is a serious matter. Although often no more than the cost of a new automobile, it is unpredictable and burdensome while not truly catastrophic. We may call such outlays stressful.



The third type of cost is represented by chronic diseases, such as certain mental disorders, which necessitate prolonged hospitalization over a period of years. The total expense may exceed the annual family income and is truly devastating if the patient or his family has to pay it.

We may now consider the most effective method of meeting these several types of expense. The case for direct, out-of-pocket payment of inconvenient costs is, in my opinion, overwhelming. To utilize insurance for this purpose is highly inefficient because the administrative and bookkeeping costs may readily exceed the medical expense. Furthermore, as long as we have a serious shortage of health personnel, some economic barrier is needed to prevent idle, curious, and neurotic persons from utilizing so many medical man-hours that those who are gravely ill may fail to receive the time they need.

The great advantage of insurance as a method of payment is its cost-spreading aspect. The time spread over a period of years might be met by a postpayment installment method similar to that commonly utilized in purchasing automobiles and appliances. However, the group spread cannot be achieved in this manner and the unpredictability of illness, both as regards occurrence and cost, make this group spread highly desirable.

Insurance has serious drawbacks, aside from its already mentioned inefficiency as a means of covering repeated small inconvenient costs. Thus, if it is to meet the devastating outlays of serious illness lasting for years, the expense of premiums will be beyond the means of many families in the lower income groups. Unless the widely utilized but unpopular features of deductibles (preliminary direct payment by the patient before being eligible for insurance benefits) and coinsurance (continued payment by the patient of a fraction—usually about one-fifth—of the costs) are preserved we shall inevitably continue to have unnecessary hospital admissions and needlessly prolonged stays. Human nature being what it is, there is probably no method of preventing abuse

except an economic penalty. The problem is to have a penalty which minimizes abuse and at the same time is not too stressful for those who genuinely need repeated or prolonged hospitalization.

The overutilization of hospitals which has resulted from insurance programs tends to create a serious shortage of hospital beds. This at times causes injustice to those gravely ill patients who urgently require admission. It, likewise, means greater long-range expense to the public for premiums and for construction of additional hospital facilities.

These defects in our rapidly expanding health insurance system can be overcome by proper safeguards. The problem is to convince the public that it is to its long-range interest to purchase policies which embody these safeguards. I gather that our friends in the insurance business are making progress in this endeavor which merits our strong support. In any case, the net effect of voluntary health insurance has been decidedly good, and it is particularly well adapted as a means of payment of the stressful costs.

When we turn to illness involving devastating expense, neither insurance nor direct payment offers an adequate solution. Fifty years ago the chief chronic disorders requiring prolonged institutional treatment were tuberculosis and mental disease. The general principle that taxation should meet the expense of these disorders has been defended by the medical profession and long accepted by the public. It would appear logical to extend this concept to include other chronic diseases which involve overwhelming outlay.

The general principles suggested are as follows: Whether a given illness or a series of diseases involves inconvenient, stressful, or devastating expense varies according to family income. Therefore, insurance policies for different income groups should involve varying deductibles and different duration of benefits. The attempt should be to have the beneficiary become eligible for insurance only after he has met the inconvenient costs by direct payment. Once the expense becomes truly stressful the major fraction, but



TABLE 2.—*Optimal Relationship Between Cost and Payment\**

Type of Cost	Upper Limit of Total Expense†	Most Socially Desirable Type of Payment	Medical Care Provided by
Inconvenient numerous small outlays	2 Wk.'s family income per yr.	Direct-fee for service	Practicing physicians
Stressful: e.g., expensive hospitalization	1 yr.'s family income	Voluntary insurance 80%‡; Direct 20%‡ (to prevent abuse)	Practicing physicians
Devastating: e.g., mental disease; some other chronic diseases	More than 1 yr.'s family income	Taxation‡	Medical school faculties

\*These relationships would not apply to those who are either very wealthy or totally indigent.

†Figures are arbitrary and selected only to illustrate the general principle.

‡Logical extension of a principle long accepted for tuberculosis and mental disease.

not all, should be paid by insurance. The illness which involves a genuinely devastating cost would be paid for by tax funds, the patient who has already paid directly and then utilized his insurance being considered as medically indigent during this period.

Those patients who were receiving tax-supported care might well be treated in university hospitals and in adjacent nursing homes. This care would include necessities but no luxuries such as private rooms. It could be provided by interns and residents aided by students and supervised by members of medical school faculties. Thus, the medical schools would have ample patients for teaching and, subject to appropriate safeguards, for research. Full-time teachers would be concerned with private patients only insofar as they were referred by private physicians in the light of such especial facilities and procedures as would not be otherwise available.

These suggestions are not aimed at a standardized national program. It would be much better if such state medical societies and legislatures as might desire to institute pilot plans adopted varying definitions of inconvenient, stressful, and devastating costs. The experience so gained might ultimately lead to a broader program which preserved our present medical pattern for the vast majority of patients and still provided for the ex-

ceptional illness for which neither direct nor insurance payment is well adapted.

Some population groups are desirous of complete prepayment for all medical services, believing that the removal of the economic barrier represents the only method of achieving early diagnosis and preventive care and that such a program would remove temptation to seek unnecessary hospitalization. As long as such programs are limited to relatively small population groups and are conducted in communities where there is no shortage of medical personnel they would appear to have the virtue of an experimental approach to a difficult problem. We shall ultimately learn much from such experiments.

There is a serious and, indeed, overwhelming objection to the rapid extension of these prepaid plans to a major segment of the population. Some of the disadvantages are that many doctors do not like it; it encourages unnecessary medical attention for minor ailments; it encourages assembly line mass medicine rather than detailed attention; however, superior physicians can, and do, avoid this.

Preventive care implies early diagnosis, which is often a most difficult and time-consuming task. Routine examination of urine, measurements of blood pressure and blood sugar levels, chest films, and electrocardiograms will detect some disorders in an early stage. Most diseases are more elusive than this and, especially when incipient, will be recognized only by the most exhaustive history and physical examination supplemented by many roentgenograms and special tests. Therefore, preventive care for a large segment of the population would subtract many medical man-hours from an already too-small pool. The net result would be a further decrease in the available personnel to provide the more urgent curative care for the remaining population groups. Thus, the large scale approach to preventive care must necessarily be deferred for several decades until the existing shortage of physicians and of other health groups has been overcome.



### Conclusions

Medicine exists to serve the public. The public will be poorly served if programs are adopted which tend to drive adventurous young minds into other fields. It will be best served if we keep what we have that is good and apply the experimental method to the solution of those problems which involve only a minority of patients but which are of such gravity as to create deep social unrest. Of numerous experimental approaches which might be devised, I would suggest one: that we attempt to turn over to the medical schools those areas, whether economic, geographical, or professional, in which our otherwise good system of practice is not functioning effectively. The expense of so doing, while large, relative to present medical school expenditures, will represent a small fraction of our annual national health cost.

There is nothing radical about these suggestions. They are along traditional lines. Hippocrates, who advocated and exemplified the synthesis of research, education, and service in the solution of the problems of medicine in ancient Greece, set the pattern which might furnish the answer to ours.

Medicine has been good to me. It has brought recognition beyond my merits. More important, it has provided threefold satisfactions. Aside from the rare but strong thrill of a new idea, there has been the occasional tear of gratitude in the eye of a patient. Perhaps the greatest, and certainly the most frequent, satisfaction has been the gleam of comprehension on the face of an inquiring pupil. But there are many frustrations in the academic life. The knowledge that one could always set up his own shop and be master of his own destiny has been a constant refuge. On two different occasions I have done so, only to be lured back to the academic rocks by those twin sirens—the unsolved research problem and the desire to teach. This in turn has sometimes caused envy of the foresight of Ulysses, who poured wax in the ears of his sailors that they might be deaf to the sirens' call.

The hope that future generations of young physicians will have the same freedom of choice which has been available to me is tinged with the opinion that if we do not find our realistic answers to difficult questions, some other group will achieve theirs, to the long-range detriment of patients, because of declining quality of those who seek medicine as a career.

These, then, are some of the problems which our young Aesculapian faces. In order to approach them he needs to visualize the future. The present is only one point and through it can be drawn numerous lines diverging in all directions. Familiarity with the medicine of the past furnishes the second point necessary to project a single line toward the future. This is the practical value of the scholarship of Dr. Major and of his fellow students of medical history. You, who are beneficiaries of his labors, are in a favored position to obtain a clear focus on present and future problems. You may wish to follow Browning's advice that young people should "strive . . . toward making" rather "than repose on aught found made." It is my hope that you will ponder these matters, will conduct experiments, and then adopt not my solutions but your own.

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### MEDICAL COORDINATION IN PENNSYLVANIA

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#### A Report of what the Doctors in Pennsylvania are doing to solve the Utilization Problem

All Philadelphia doctors bear the indelible thumbprint of that wise old American Benjamin Franklin; they can not escape this influence of Mr. Franklin because it was he who supervised the education of the four men who founded the first American Medical school (the University of Pennsylvania). In

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1740 there was no formal medical education in America and those desiring professional training went to Europe to secure it. It was only natural that Franklin, who at this time was London agent for several American colonies and who seemed to be on a corresponding basis with almost everyone, should be trusted with the arrangements for the education of the young sons and nephews of his American friends. Ben saw at first hand the defects of English and Continental universities and steered all the young men who came to him for advice to friends in Scotland. "It is important," wrote Franklin, "that the physician learn to be first of all a citizen of his community and then later learn to heal. In London the practice of medicine has become a skilled trade. Physicians should be much more than good artisans." In Edinburgh, Professor William Robertson, no believer in intellectual colistering, housed all of his students in community families where they participated in all the relationships of Scottish family life, politics, and civic activities.

Purposely exposed to such contagious influences, it is not at all strange that the returning young physicians would immediately establish a medical school specifically copied after the University of Edinburgh and become embroiled in the Revolutionary movement. We could thus say that the old rascal, Benjamin Franklin, is responsible for much of the American doctor's opposition to governmental control of medical practice, patients, or hospitals.

Even Benjamin Franklin had difficulty in dealing with the fiercely individualistic Philadelphia doctors when he established the Pennsylvania Hospital in 1751. Hospital troubles began with this first American Hospital and have continued ever since; public charity even then proved inadequate to accomplish the functions of a community hospital and attempts have been made ever since to secure more realistic commonwealth assistance. In 1907 Doctor John Chalmers Da Costa, at the opening of the new Jefferson Medical College Hospital, stated "When a man is saved from death or rescued from sick-

ness he returns to the support of a family which might otherwise be a public charge, and he becomes again an industrial unit, a factor in the production of wealth, a factor which adds its share to the power and greatness of the commonwealth. From the economic view alone, to say nothing of the humane aspect, it actually pays the state to aid hospitals financially." This was fifty-two years ago. Doctor Da Costa added "The need of hospital accommodation is every year becoming more and more pressing. This is an age when dangerous occupations multiply. The streets are filled with rapidly moving and death-dealing vehicles. Great machine shops and factories crush and mutilate. Closely adjacent to the hospital are the slums, the inhabitants of which, when injured or diseased, know no resource but the hospital." There came a time within the memory of all of us when *most* of the inhabitants of a community became unable to pay for adequate hospitalization out of savings. Plans were then devised to budget savings in such manner as to prepay any eventual hospitalization. These plans were sometimes projected without consultation with the local doctor who there upon looked upon the new plan as an intrusion upon his time-honored way of handling his patients. When Blue Cross was set up in Pennsylvania in 1939, organized medicine fought it tooth and nail.

I have just returned from the one hundred and ninth annual session of the Pennsylvania Medical Society. At that meeting a plan to pay for community health care by self-insurance was publically announced with the whole-hearted support of the local medical societies; Blue Cross, Blue Shield, and the local hospital council, and the local insurance council. It was stated "The success of dealing with the increasing costs of modern medical care by voluntary group prepayment plans requires the cooperation of organized medicine with the so called third parties in which all interested partners must concede certain privileges for the good of all."

These are strange and wonderful words to emerge from a meeting of delegates of a



state medical society. I mention this to convince you that the medical profession is now convinced that it is very much a partner with Blue Cross, the Hospital Association, and Blue Cross subscribers (otherwise known as patients of the doctors) in preserving free and voluntary medicine in the United States.

It is of course possible that the presence of that astute and stubborn Insurance Commissioner of The Commonwealth of Pennsylvania, Francis R. Smith, might have had something to do with this rather sudden decision of all interested parties to sit down and amicably work together on pre-paid health problems. "I hereby prescribe," said he, in his adjudication of April 15, 1958, "that each Blue Cross plan allocated as an item of administrative expense, to be defrayed from existing reserves, a sum of money sufficient to maintain constant vigilance . . . in instituting reforms to eliminate abuses in the use of hospital care. Each Blue Cross plan shall expressly request the assistance of the County Medical Societies in resolving the abuses in hospital utilization. The item of expense allocated as aforesaid may be used for defraying any costs involved in cooperating with such societies in developing and carrying out methods and plans to reduce abuses." The Commissioner added tartly, "Testimony submitted in these hearings establish beyond any doubt that unnecessary utilization of hospital service can be substantially reduced by proper action and cooperation of all interested parties, including Blue Cross Plans, their subscribers, doctors, and hospital administrators. Any suggestion that we can't do anything about it because we don't know to what extent the abuses exist should be summarily rejected."

#### **The Physicians' Review Board**

The associated Hospital Service of Philadelphia conferred with the Philadelphia County Medical Society, and The Physicians' Review Board was born. The philosophy of its organization is unique, and due to the far-seeing determination of Mr. E. A. van Steenwyk, the new Board was made entirely

independent. It was decided that the proposed group of prominent and actively-practicing doctors could only succeed in their difficult and thankless task if it were entirely free of domination and pressure from any group, but furnished, at the special stipulation of the Insurance Commissioner, with clerical, statistical, and financial assistance by The Associated Hospital Service of Philadelphia.

The Review Board is directed by the equally-divided supervision of two Co-Chairmen, chosen by conference of Blue Cross with the Philadelphia County Medical Society. The two-man-head plan has proven to be most fortunate; it provides divided responsibility when the going gets rough; it provides companionship in an excursion into new and strange territory; it provides constant encouragement and a chance to talk things over with a kindred spirit. Dr. James L. McCabe and myself are delighted with this arrangement.

Six groups of six doctors were then chosen, each man qualified as follows:

1. He must be actively engaged in practice. He must have patients of his own, which he personally admits and treats in local hospitals.
2. He must be well-liked and trusted by his associates.
3. He must be capable of calm and objective discussion, with no axes to grind, and no old grudges to irritate him.

There are ninety-three Blue Cross member hospitals in the Philadelphia area. It is usual for doctors to be members of several area hospital staffs; our thirty-six Board members represent the Staffs of all member hospitals; they represent all phases of medical practice. But when they come to us they represent only themselves—we ask for their personal unbiased judgement and get it.

Our duties are transacted in strict business manner at regular business hours, with no night work or volunteer lassitude. Thanks to the wise stipulations of the Insurance Commissioner we have been able to pick the most



capable men available, pay them a decent fee, expect them to be present at three o'clock on the day their group meets, and dismiss them promptly at five o'clock.

### Board Meetings

Our men meet in groups of six, once each month. The meetings are arranged so that each member of the Board knows beforehand that he will be expected from 3 to 5 P. M. on a certain Tuesday or Thursday of each month, and can plan his work accordingly. The meetings are held in very pleasant quarters in the centrally located Blue Cross building.

The meetings are conducted by the two Co-Chairmen, usually alternately but often jointly; both Chairmen are most often there. Secretarial, statistical, and recording services are available when needed. Members sit about a large table. Before each member is a pile of photostat hospital charts, chosen for examination as will be explained later. The subscriber contract states: (section VII-2) "each subscriber authorizes and directs any doctor, nurse, hospital or other institution having at any time examined, diagnosed, treated, attended, or rendered service to the subscriber, or possessing any information or records or copies of records relating thereto, to furnish to Blue Cross at any time upon its request, any and all such information or records or copies of records. Each subscriber agrees that approval by Blue Cross of coverage for any hospitalization or for services rendered under the subscription agreement is contingent upon receipt by Blue Cross of such information or records or copies of records."

The records presented to the Board for examination are complete hospital records, with laboratory reports, order sheets, nurses notes—everything that is in the hospital files regarding the patient. If the records are incomplete or inaccurate it is the fault of the attending physician, not the Review Board. During the first hour of the meeting each member carefully examines his group of records, making such notes as he desires and

marking certain facts upon a chart for permanent business-card recording.

The second hour of the meeting brings a group discussion of the individual records. Each Board member, in turn, discusses each of the records he has reviewed, but the name of the patient, the name of the attending physician and the name of the hospital are not divulged. Board members have been briefed on the provisions of the subscription agreement. Certain important terms and provisions have been printed upon large cards for ready reference. A general discussion then ensues. The question is asked, "is this patient entitled, by the terms of his written agreement with Blue Cross, to payment for this trip to the hospital?"

A vote is taken. If the Board decides that the hospitalization was not in keeping with the terms of the Blue Cross Agreement, the Associated Hospital Service is advised not to pay the bill. Often the Board decides that the hospitalization completely fulfilled the requirements of this contract, and advises payment of the bill. Blue Cross has never questioned one of our decisions; attending physicians frequently do. The Board at times advised payment of the bill but suggests that the attending physician be apprised of apparent delays or overutilization and invited to explain then if he so desires.

Disputed decisions are presented to a second or third group for discussion. The hospital record is again reviewed and the protesting doctor's letter is read anonymously.

It is important to record that no Blue Cross official is present at any meeting except by special invitation, and that all discussion and decisions are made by doctors actually engaged in active medical practice.

In addition to this review of questionable current cases our board also is engaging in the study of a series of old records selected because the last two digits of their subscription numbers were forty-nine. In these older cases we are particularly interested in overstay, over-utilization of facilities, delay in scheduling or securing services and so forth. We hope in this way to obtain a statistical



survey of the frequency of abuse. Frankly, however, we are more interested in finding and in correcting abuse where we find it in current cases.

#### After The Meetings

The Board has met, has reviewed a group of hospital charts, and has made decisions regarding them. The Board members have done their work; they have no compunctions regarding their judgements for they had no knowledge of the identity of those they have criticized. It has been said that too often audit committees are junior staff members—the junior surgeon audits surgery records, the junior medical man audits medical records, etc., and all are afraid of professional reprisals by seniors. We do not have this difficulty; our Board men are all seniors, and do not know whether the scrutinized doctor is a personal friend or foe, a professor or a recent resident.

During the meeting the Co-Chairmen supply information but take no active part in the decision of the Board. Now they notify the Blue Cross Business Office that The Review Board has decided:

1. This particular hospitalization is not in accord with the Agreement between the subscriber and Blue Cross and therefore Blue Cross should not pay the bill. The specific infraction of the terms of the contract is noted.

2. This particular hospitalization is in full accord with Agreement and should be paid.

3. The records are incomplete or confusing. The attending doctor should be asked for additional information before a decision can be reached.

4. The bill should be paid but the attending physician should be apprised of delays or overuse of facilities that tend to increase the cost of hospital care.

In nearly every case a letter is written to the involved attending physician telling him that the case history was examined during the Review of a group of cases from his hospital. He is told that the letter is sent to

him for his information and that no criticism is necessarily implied regarding his treatment of the patient. A Blue Cross Agreement is sent him, with the disputed terms marked in red ink. He is invited if he feels that the hospital records are inaccurate or incomplete, to write to the Board, supply further pertinent information. All correspondence is written and signed by the two Co-Chairmen. The complete list of Review Board members is printed on the stationery letterhead.

Our letters have gone to a great variety of doctors. Nationally known surgeons, Chiefs of Staffs, and members of our own Board have received letters. An occasional doctor is furious and takes the letter as a personal affront to his honor and integrity. Usually the doctor becomes embarrassed when he goes to the record room and looks at the questioned chart; then he writes to us, giving information that should have been part of the record. Upon receipt of such letter, the case is given to a second group of our Board and the additional information is read from his letter. The decision of the second group is relayed to the doctor; occasionally the first decision is reversed and the doctor is told that the Board will recommend payment of the bill as soon as he makes the additional information (or a copy of his letter to us) a part of the official hospital record.

Several doctors have insisted that they be permitted to appear personally before the Board to defend their honor and ethics. Since we have never impugned the honor or ethics of any doctor in our deliberation or correspondence, we steadfastly refuse to permit such personal appearances. The Co-Chairmen take the brunt of all this occasional unpleasantness—they have lived full and productive lives, are looking for no favors or advancement, knew that this would be a part of the duties that someone had to assume, and shrug it off.

#### Before The Meetings

What transpires at the meetings of the Physicians' Review Board, and any benefit



that may accrue to our community by such action, is dependent upon what takes place before the men assemble. While it is true that Blue Cross could not possibly do what this organized group of doctors are doing, it is equally true that without Blue Cross the Physicians' Review Board would be just another committee to draw up high and lofty resolutions.

Here, at long last, is a group of mature and capable doctors, encouraged by the good wishes of a community prodded on by Commonwealth Government, and endowed bountifully by Blue Cross with clerical help, statistical and mechanical assistance, telephone, office space, and funds for necessary expenses. This conjugation of the planets may never occur again. We plan to make the most of it.

For years Blue Cross has been paying hospital bills it felt were not in accordance with the terms of its subscriber agreements. It tried at first to have a medical director pass upon the validity of certain claims, but his objectivity was openly and loudly protested. He was an insurance company employee and had no practice of his own and that was that. Next Blue Cross tried sending questionable cases to "medical referees." That didn't work. Then came deficits and public rate hearings and a general demand that something must be done about questionable hospitalization claims.

During all this time capable and experienced Blue Cross employees were processing hundreds of claims that they wished some capable and interested doctors would or could check. At this stage of processing one can never be sure of the implications of a hospital bill; only a review of the complete hospital records will give a satisfactory picture of the hospitalization. Many of the records for the Review Board come from the experienced hands of skeptical processors. The questioned hospital bills are sorted by the Co-Chairmen. Those deemed worthy of further study are listed and Blue Cross employees go to the hospitals and make photostatic copies of the complete hospital record.

These records are then inspected by the two Co-Chairmen; some bills very obviously should be paid, others are questionable, and are submitted to the Board for decision. This, then, is how the stack of hospital records get on the table of the Review Board.

But Blue Cross facilities enable the Review Board to contemplate much more than this. Modern computing machines produce statistics and charts to permit comparison of similar groups of patients from hospital to hospital. When this is done interesting variations crop up. Records of such groups of patients are obtained and reviewed by the Board.

All of this requires much assistance, much time, and is very expensive. Without this pre-meeting activity the Physicians' Review Board could not function.

#### The Results To Date

We have attempted to keep our feet on the ground and to pursue actively the specific task set out for us by the Insurance Commissioner of the State of Pennsylvania, namely "to develop and carry out methods and plans to reduce unnecessary utilization of hospital service."

We have studied and recorded factual information from hospital charts selected because of definite criteria. The charts were not chosen at random, nor by numerical sorting, consequently no statistical "percentages" will be forthcoming. We have used as our compass Commissioner Francis R. Smith's words: "unnecessary utilization of hospital service can be substantially reduced by proper action and cooperation of all interested parties. Any suggestion that we can't do anything about is because we don't know to what extent the abuses exist should be summarily rejected."

In the study of hundreds of charts we have found only one instance of frank dishonesty (the discovery of which was our first big milestone; it was corrected promptly to everyone's satisfaction.)



We have discovered only a few scattered cases of willful evasion or sharp practices in the admission of patients for unnecessary hospitalization. We are convinced that the entire field of pre-paid hospital insurance is overlaid by the dust of time-honored free-and-easy habits that waste a great deal of Blue Cross reserves. We believe that community doctors can change these hospitalization habits when they become convinced that government will do it for them unless they bestir themselves. Perhaps the irritation of our letters and our constant pressure for better hospital records will help do this.

We are convinced that the American way of doing things together for the good of all is just as alive today as it was in Benjamin Franklin's day.

NEWS ITEM

A.M.A.'s FIFTY YEAR CLUB

Dr. J. H. McCurry of Cash, Ark. advises that he has the approval of the American

Medical Association to organize a Fifty Year Club within the A.M.A. Dr. McCurry is anxious to hear from physicians who have been in practice fifty years or more who desire to become members of this club, giving their name and a complete address.

The first meeting of the new organization will be held in Washington, D. C. at the Clinical meeting on November 29th.

MOBILE HORSE SHOW

Physicians attending the Association's 99th Annual Session are invited to attend the Mobile Azalea Horse Show on Saturday and Sunday, April 23-24, according to Dr. Shepard Jerome of Mobile.

Proceeds from the two-day show, to be held at the Braswell Show Ring on Higgins Road just off highway 90 west, will go to the Mobile Lions' Club Charity Fund, he said.

Shows are scheduled for 2:00 p.m. and 7:30 p.m. on Saturday and the Sunday afternoon show will be at 2:00 p.m., he added.

ESTABLISHED RATES OF  
PHYSICIANS' CHARGES.

CAHAWBA, JANUARY 1, 1837.

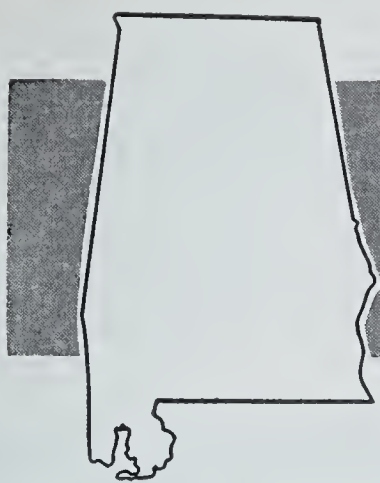
Milage in daylight, fair weather, per mile,	\$1 00	Artificial and instrumental, from 30 to	100 00
“ night or inclement, - - -	2 00	Delivery of retained Placenta, (manual)	20 00
“ “ rain or snow, - - -	3 00	(Visits and attendance charged as above.)	
Personal attendance in daylight, per hour,	2 00	Amputations, from \$10 to - - -	50 00
“ “ in night, per hour,	3 00	Reducing Luxations, from \$5 to - -	50 00
Consultation fee, - - - - -	10 00	Setting simple fractures, from \$10 to	20 00
“ “ to attending Physician,	5 00	Introducing Bougie or Catheter, (1st time,)	5 00
Rising at night, from 10 P. M. 'till daylight,	5 00	“ “ “ (subsequent)	3 00
Visit in Town, and medicine, first visit,	3 00	Prescriptions in chronic cases, with written	
“ “ subsequent visits, each,	2 00	advice, from \$5 to - - -	10 00
Clinical prescriptions, - - - - -	2 00	Prescription in shop, from \$1 to - -	5 00
Bleeding, - - - - -	1 00	For examination of slaves in relation to	
Extracting teeth, - - - - -	1 00	general health, - - - -	10 00
Cupping, - - - - -	2 00	Prescriptions for slaves on plantations, from	
Arteriotomy, - - - - -	2 00	50 cents to - - - -	1 00
Enemoe, each, - - - - -	2 00	Cure of Syphyllis, from \$20 to - -	40 00
Blisters, from 50 cents to - - -	1 00	“ Acute Urithritis, - - - -	10 00
Obstetrical cases, (natural labour,) - -	20 00	“ Chronic “ - - - -	20 00

For the purpose of establishing an uniformity of professional fees, we have adopted the above rates.

P. WALTER HERBERT, JOHN A. ENGLISH,  
BENJ. R. HOGAN, E. W. HAMILTON.  
P. H. EARLE,

FROM ORIGINAL AT ART LEWIS' MODEST MUSEUM, SELMA, ALA., NOV. 1, 1959





## around the state



GP OFFICERS—Dr. W. J. B. Owings was named chairman of the board of directors of the Alabama Academy of General Practice at its 20th postgraduate seminar in Birmingham. He is pictured above left

with his past-president plaque and with Dr. Winston Edwards, newly elected president of the Academy. Dr. L. B. Burroughs Jr. (below left) of Birmingham was named president-elect of the group.



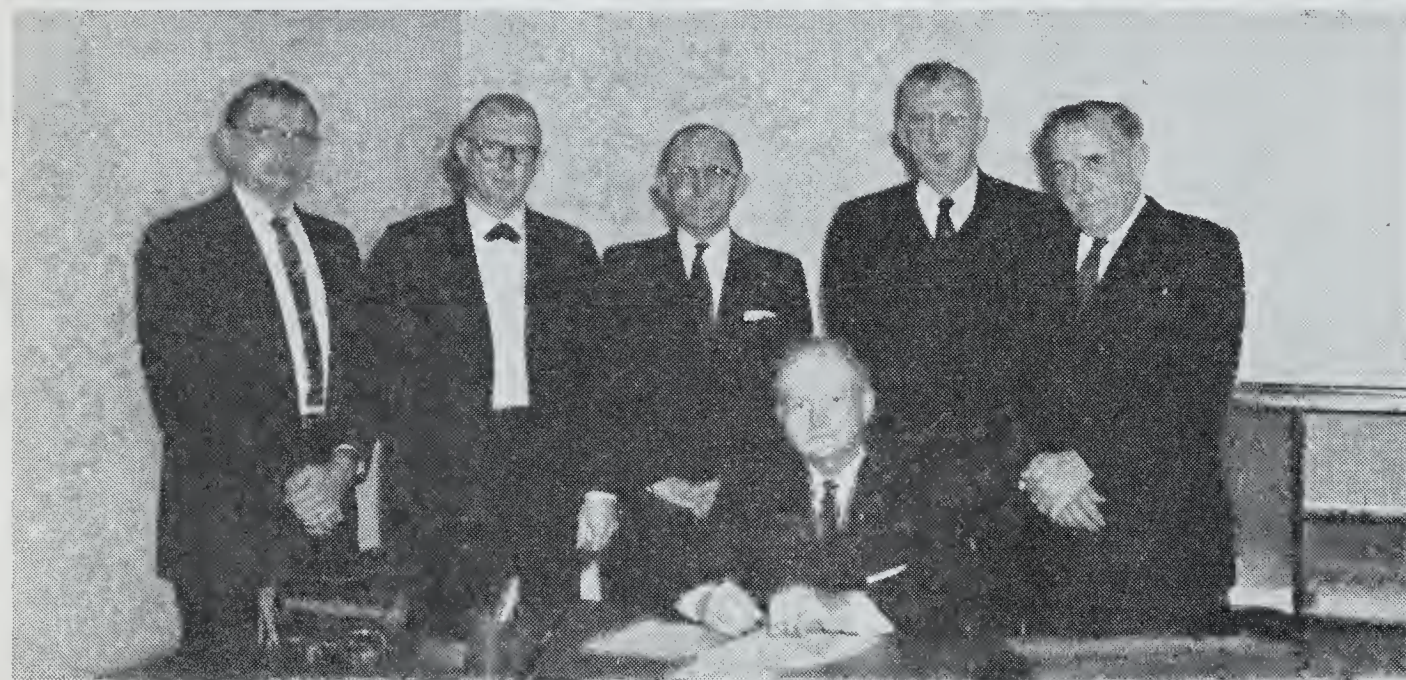
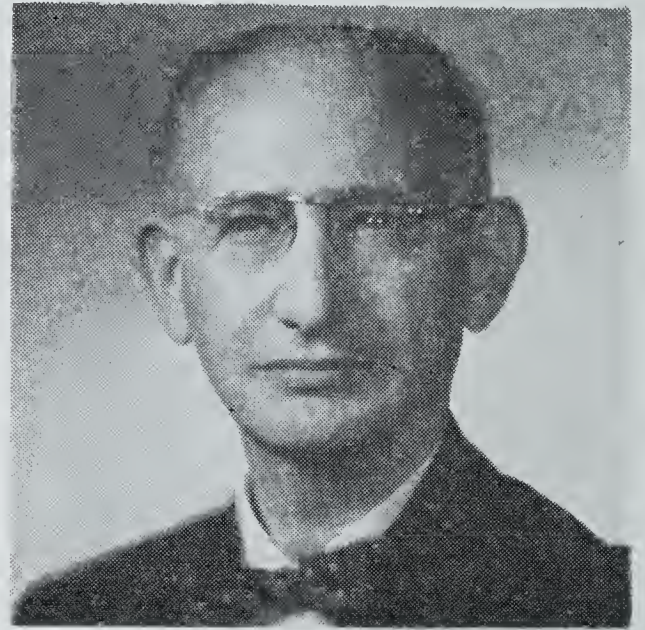
NEW GP—Dr. Emmett S. Frazer, right, prominent Mobile surgeon and president of the Alabama Chapter of the American College of Surgeons, was elected an honorary member of the Alabama Academy of General Practice during its 20th postgraduate seminar. Dr. Frazer is a graduate of the Medical College of Alabama and was awarded the degree of Master of Science in Surgery by the Mayo Clinic. He is the son of the late Dr. T. H. Frazer, professor of obstetrics and Dean of the Medical College of Alabama.



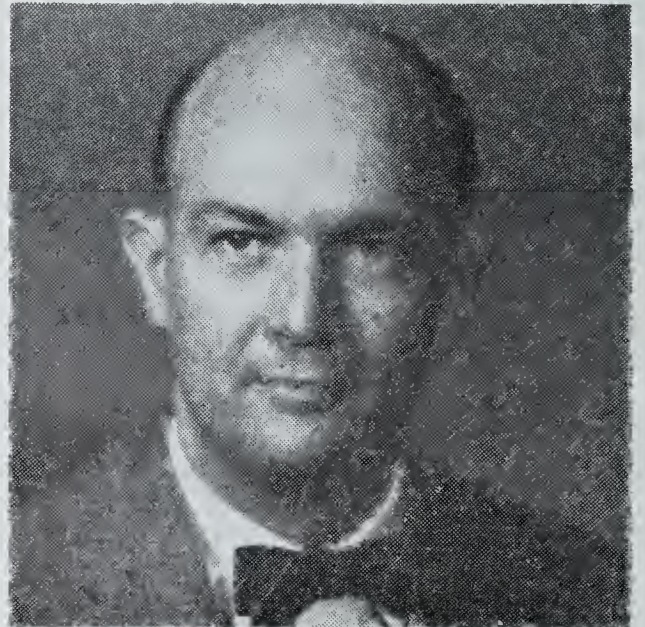




**PEDIATRICIANS**—The first area meeting of the Alabama Chapter of the American Academy of Pediatrics' educational program was held recently in Atmore. Speakers were Drs. Hollis Wiseman, D. F. Sullivan, Vaun Adams, John Hope and R. O. Harris.



**NEW COUNCIL**—Dr. S. R. Monroe (seated); Dr. Garrett Hagun (left standing); Dr. Thomas Jones; Mr. E. P. Scruggs; Dr. John Martin; Mr. John Scott, representing the veterinary, dental, pharmaceutical, medical and law professions, met recently in Montgomery and formed the Interprofessional Council of Alabama.



**GUEST SPEAKERS**—Dr. John Adriana (top), director of New Orleans Charity Hospital's anesthesia department, was one of the major speakers at the Alabama Chapter of American College of Surgeons meeting last month. Dr. William Simpson, Medical College of Alabama, spoke on dissecting aneurysms of the aorta.



**VISITING LECTURERS** — Plans for arranging regular visits by lecturers from the Medical College of Alabama to Mobile General Hospital were formulated recently in Mobile by (seated left to right) Dr. J. M. Baumhauer; Dr. James Donald; Dr. G. O. Segrest; Dr. Champ Lyons; Dr. Samuel Marshall; Dr. Earl Wert (left standing); Dr. Frank Rose; Dr. Neal Flowers and John Blend, administrator of General Hospital.





## MEDICAL CENTER NEWS

### BREATHING TEST CONDUCTED

A series of experiments recently concluded by the pulmonary lab staff here was aimed at devising a procedure for mass-testing of lung damage, establishing a workable method of determining cause of breathing difficulty, and identifying the relationship of lung disease with such factors as air pollution, smoking, and occupation.

The increasing incidence of chronic bronchitis and emphysema—a progressive disorder which results in collapse of bronchial walls and obstruction of breathing—indicated the need for such a study, according to Dr. Ben V. Branscomb, assistant professor of medicine and head of the department's pulmonary division. He said his team first tested apparatus for measuring breathing by having a mechanical "patient" (a power lawnmower engine) puff breaths of air of measure value and speed into many different pieces of equipment. Thus the sensitivity and limitations of the various testing devices were checked.

Then five pieces of equipment (or nearly the entire instrumentation of the pulmonary lab) were installed in a bus which was first driven to a location downtown and later to Office Park in Mountain Brook. Twenty-four measurements of breathing function were obtained for each of 127 volunteers.

Reporting on this project in mid-January before a group of physiologists and physicians at the National Institutes of Health, where a joint American-British study of air pollution and lung disease problems was being planned, Dr. Branscomb said results so far obtained indicate the value of certain measurements and point the way toward a possible large-scale program to determine the extent

and origin of chronic lung disease. He also told the scientists that methods which the Birmingham investigators employed may prove to be useful in determining the type of breathing difficulty present.

The testing procedure involved having the subjects breathe into a machine which records volume and flow rate of air throughout the breathing cycle. These data are pictured on a graph. Information furnished by the graphs demonstrates the mechanisms contributing to shortness of breath in disease like asthma, emphysema, and bronchitis.

An analysis of the breathing function in 300 patients in relation to smoking, occupation, and place of residence will be presented by Dr. Branscomb this month at a National Congress of Air-Pollution Investigators in New Orleans after further study and tabulation of test results.

### EENT GUEST SPEAKER

Dr. S. Richard Silverman, director of St. Louis' Central Institute for the Deaf and professor of audiology at Washington University School of Medicine, was guest speaker at the Birmingham EENT Society meeting on February 10.

Dr. Silverman, past president of the American Speech and Hearing Association, was the featured speaker at the Nemours conference on handicapped children in Tuscaloosa.

He served as consultant in problems of deafness to the United States Secretary of War, 1944-49, and as part of his function was instrumental in setting up the armed forces' aural rehabilitation program. He also was consultant in audiology to the Air Force in 1951. Dr. Silverman is a graduate of Cornell and Washington Universities.





**HE HEARS**—The young subject being evaluated with an audiometer signals that he can hear the test stimulus transmitted by the instrument. In the hands of a skilled clinician like Audiologist Griff Brackett, the audiometer can be used to identify type as well as degree of hearing loss. Information thus obtained is important in medical, rehabilitative, and educational planning. Last month at the Nemours conference on speech and hearing disorders, Mr. Brackett and other members of the Medical Center Hearing and Speech Clinic staff discussed the problems of the hearing-impaired child and adult and told what can be done at state and local levels to assist such persons toward improved function.

#### UNIVERSITY HOSPITAL HAS FEWER CASES

Fewer patients were treated at University Hospital during the past fiscal year; but the cases were more complex, requiring longer stays and a record number of diagnostic laboratory procedures.

According to Matthew F. McNulty, Jr., administrator, the hospital admitted 23,865 patients during the year—a drop of more than 1000 from the previous year's 24,986 admissions. The average stay per patient rose from 7.61 to 7.74 days during the same period, and laboratory tests for hospital patients increased 16.4 per cent.

An increasing number of referrals of complex cases from other areas helps to account for these statistical changes.

#### FOREIGN FELLOWSHIPS OFFERED MED STUDENTS BY DRUG COMPANY

A new program to send U. S. medical students abroad for limited periods of work and study has been announced by the Association of American Medical Colleges and Smith Kline and French Pharmaceutical Company.

Established by a \$180,000 grant from the drug firm, the fellowships are open to students who have finished their third year of medical school. During twelve or more weeks spent at a mission hospital or private medical facility in some remote part of the world, the fellow will impart up-to-date scientific information and gain experience which he might not get in the United States. The sponsors feel that such a program will not only benefit the student fellows but also further international relations for the United States through their roles as unofficial ambassadors.

Applications for one of these fellowships must be made through the dean of student's medical college.

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#### NEW REHABILITATION CENTER TO BE FINANCED BY GIFT

A gift valued at about \$600,000 has been presented to the University of Alabama by Mr. and Mrs. Frank Spain of Birmingham to finance a new rehabilitation center.

The \$1,500,000 rehabilitation facility, to be a part of the Medical Center, will be built with the aid of federal funds matching the local money on a two-to-one basis.

The gift, announced recently by Dr. Frank A. Rose, University president, consists of 10,000 shares of Liberty National Life Insurance Company stock.

The stock will be turned over to the Medical Center in 10 annual installments of 1,000 shares each, together with the dividends on it. The stock currently is selling at approximately \$60 a share.

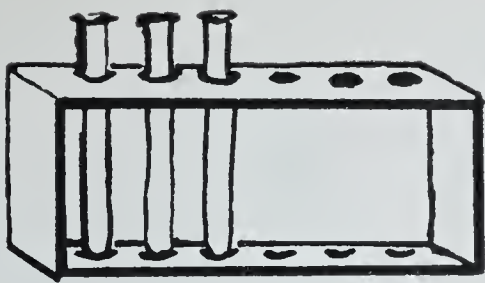
In announcing the gift from Mr. and Mrs. Spain, Dr. Rose stated that "this magnificent contribution to the University for the construction of a much-needed rehabilitation center is of the greatest significance to our state and our University. It will not only bring great benefit to a large number of handicapped people, both old and young, but it will also greatly enrich the education of medical, dental and nursing research."

"It will make possible the training of other types of workers who will then be available to staff other centers throughout the state and it will provide an opportunity to advance knowledge concerning crippling conditions through research."

Dr. Robert C. Berson, University vice president for health affairs, said such a center has been a part of the long-range plans for the Medical Center for several years.

He stated the rehabilitation center probably will be built on the block bounded by 17th and 18th Sts. and by Sixth and Seventh Aves., South, adjacent to the psychiatric clinic now under construction.





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.  
State Health Officer

### POLIOMYELITIS IN 1959

Like the rest of the nation, Alabama experienced a sharp rise in the incidence of poliomyelitis during 1959. There were 251 cases compared with only 60 reported during 1958. For the United States as a whole, the 1959 total was 8,577 while the 1958 figure was 6,029. (All figures used herein are provisional. Delayed reports will cause final totals to vary to some extent.)

Although Alabama itself was considered an epidemic area during 1959, cases were for the most part scattered throughout the state. With one exception, all counties reporting as many as ten cases were population centers. In an outbreak of any disease, these counties would normally be expected to report more cases than less populous areas. Only seven counties had ten or more cases of poliomyelitis during the year just ended.

Eighty-six per cent (216) of Alabama's cases were paralytic poliomyelitis. This is almost exactly the same as the 1958 percentage which was 86.66. The state is at variance with the national pattern here. According to reports of the U. S. Public Health Service, 66 per cent of the nation's 1959 poliomyelitis cases were paralytic; 52 per cent were paralytic in 1958.

Of the total of 216 persons who had paralytic poliomyelitis in Alabama, 52 had been partially or fully immunized. Of the 35 non-paralytic cases, 14 had been partially or fully immunized.

As has been true in the past, the hardest hit age group in Alabama was that of preschool age children. Of the total, 151 cases occurred among children under six years of age. Seventy cases occurred among persons between the ages of six and 18 inclusive; 29 cases among persons over 18. In one case the age was not reported. The distribution of cases by age group makes it apparent that

poliomyelitis is still infantile paralysis in Alabama.

A review of the paralytic and immunization status of the preschool age group reveals how hard hit this group really was. Of the 151 preschool age children who had poliomyelitis, 90 per cent (139) had the paralytic form of the disease. They accounted for 60 per cent of *all* paralytic cases in the state.

Thirty-two of the 139 children had received Salk vaccine. Only nine, however, had received the full course of three shots considered necessary for full immunization. One of the nine was reported to have received the fourth shot now recommended in some instances, but there is some question as to the accuracy of this report.

Since the end of the federal poliomyelitis immunization program, the State Health Department has not had individual records of immunization. According to estimates of the National Foundation, only about half of the children under six years of age in the United States have been immunized against poliomyelitis. There is no evidence to indicate that Alabama's record in this respect is any better than that of the nation as a whole. In fact, it may not be as good. The Foundation also estimates that the proportion of adults who have been immunized is considerably lower than one-half.

In the three years (1956, 1957, 1958) immediately following the introduction of the Salk vaccine, there was a sharp decline in the incidence of poliomyelitis. The fact that 1960 saw as many cases as would have been considered normal in a year prior to the development of the vaccine must be attributed at least in part to failure of the public to avail itself of the protection afforded by the vaccine. It is apparent that our problem with respect to poliomyelitis is similar to that we encounter with other diseases, such as diphtheria and whooping cough, for which effective immunizing agents are available. We must develop a strong, sustained educational



DEPARTMENT OF HEALTH

program which will convince people of the necessity for having their children and themselves immunized. This program should be particularly directed toward the parents of preschool children.

BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

December 1959

Examinations for malaria .....	15
Examinations for diphtheria bacilli and Vincent's .....	239
Agglutination tests .....	418
Typhoid cultures (blood, feces and urine) .....	560
Brucella cultures .....	4
Examinations for intestinal parasites .....	2,137
Darkfield examinations .....	3
Serologic tests for syphilis (blood and spinal fluid) .....	21,034
Examinations for gonococci .....	1,472
Complement fixation tests .....	20
Examinations for tubercle bacilli .....	3,004
Examinations for Negri bodies (smears & animal inoculations) .....	223
Water examinations .....	1,860
Milk and dairy products examinations .....	4,181
Miscellaneous examinations .....	1,160

Total 36,330

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BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1959

	Nov.	Dec.	*E. E. Dec.
Typhoid & paratyphoid .....	4	0	4
Undulant fever .....	1	0	0
Meningitis .....	3	1	11
Scarlet fever .....	37	69	79
Whooping cough .....	35	30	31
Diphtheria .....	23	15	21
Tetanus .....	3	1	3
Tuberculosis .....	116	113	149
Tularemia .....	1	0	0
Amebic dysentery .....	1	4	1
Malaria .....	0	0	0
Influenza .....	136	77	302
Smallpox .....	0	0	0
Measles .....	44	28	103
Poliomyelitis .....	8	5	10
Encephalitis .....	3	3	1
Chickenpox .....	11	53	204
Typhus fever .....	1	0	1
Mumps .....	32	84	106
Cancer .....	493	392	402
Pellagra .....	0	0	0
Pneumonia .....	198	241	207
Syphilis .....	128	131	125
Chancroid .....	1	2	6
Gonorrhea .....	275	210	265
Rabies—Human cases .....	0	0	0
Positive animal heads .....	11	3	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS AND COMPARATIVE DATA,  
OCTOBER 1959

Live Births Deaths Causes of Death	Number Registered During October 1959			Rates* (Annual Basis)		
	Total	White	Non-White	1959	1958	1957
Live Births .....	6973	4529	2444	25.5	27.1	26.7
Deaths .....	2336	1493	843	8.5	8.1	9.5
Fetal deaths .....	168	79	89	23.5	22.4	21.2
Infant deaths						
under one month .....	131	63	68	18.8	21.9	22.6
under one year .....	196	85	111	28.1	30.3	32.9
Maternal deaths .....	9	4	5	12.6	12.0	5.5
Cause of Death						
Tuberculosis, 001-019 .....	25	13	12	9.1	10.3	8.2
Syphilis, 020-029 .....	6	2	4	2.2	1.8	3.4
Dysentery, 045-048 .....	3	2	1	1.1	0.7	0.7
Diphtheria, 055 .....	2		2	0.7		0.4
Whooping cough, 056 .....	1		1	0.4	0.4	
Meningococcal infections, 057 .....						1.9
Poliomyelitis, 080-081 .....	1	1		0.4		0.4
Measles, 085 .....	2	1	1	0.7		
Malignant neoplasms, 140-205 .....	323	243	80	117.9	103.6	120.7
Diabetes mellitus, 260 .....	27	13	14	9.9	10.7	13.4
Pellagra, 281 .....					0.4	0.4
Vascular lesions of central nervous system, 330-334 .....	332	209	123	121.2	99.6	118.1
Rheumatic fever, 400-402 .....	5	1	4	1.8	0.4	0.7
Diseases of the heart, 410-443 .....	787	524	263	287.3	270.7	306.3
Hypertension with heart disease, 440-443 .....	169	85	84	61.7	49.0	56.3
Diseases of the arteries, 450-456 .....	43	28	15	15.7	18.4	21.6
Influenza, 480-483 .....	3	1	2	1.1	1.8	16.4
Pneumonia, all forms, 490-493 .....	44	19	25	16.1	17.0	32.8
Bronchitis, 500-502 .....	3	3		1.1	0.7	2.6
Appendicitis, 550-553 .....	5	3	2	1.8	1.1	1.1
Intestinal obstruction and hernia, 560, 561, 570 .....	9	4	5	3.3	1.8	6.0
Gastro-enteritis and colitis, under 2, 571.0, 764 .....	11	1	10	4.0	8.5	2.6
Cirrhosis of liver, 581 .....	7	4	3	2.6	7.4	8.2
Diseases of pregnancy and childbirth, 640-689 .....	9	4	5	12.6	12.0	5.5
Congenital malformations, 750-759 .....	39	23	16	5.6	4.8	5.0
Immaturity at birth, 774-776 .....	30	13	17	4.3	5.4	6.8
Accidents, total 800-962 .....	167	126	41	61.0	59.8	61.5
Motor vehicle accidents, 810-835, 960 .....	86	74	12	31.4	29.9	36.1
All other defined causes .....	370	218	152	135.1	122.8	154.2
Ill-defined and unknown causes, 780-793, 795 .....	82	37	45	29.9	44.6	48.4

Rates: birth and death—per 1,000 population  
infant deaths—per 1,000 live births  
fetal deaths—per 1,000 deliveries  
maternal deaths—per 10,000 deliveries  
deaths from specified causes—per 100,000 population



# THE JOURNAL

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## THE PLACE OF THE SURGEON IN REHABILITATION

ROSS T. McINTYRE, M. D.\*

Chicago

The subject of this paper, "The Place of the Surgeon in Rehabilitation," requires much thought, for the entire process of rehabilitation is complex. Webster's Dictionary defines rehabilitation as . . . "To restore to normal status: to vindicate: to restore to a physical state where the individual can make a livelihood."

In order that this be accomplished, the process of rehabilitation requires consideration of the entire personality. We divide rehabilitation, for descriptive purposes, into four categories:

- (1) The discovery of the injury or disease.
- (2) Medical, surgical and hospital periods.
- (3) Physical therapy and vocational training.
- (4) Employment.

It will be seen that the place of the surgeon would be mainly in the second period. However, this does not necessarily hold true. A very important time is in the initial phase when, for example, an individual is struck down on a highway or is badly injured in a fall. It is very necessary in my opinion that every ambulance driver, whether in the city or on a state highway, be certified in advanced first aid. It is at this point where

lives may be saved by proper handling of a severely injured patient. The surgeon has a responsibility to see that the city or county takes these necessary precautions.

The general practitioner will generally be the first medical man who will see the accident victim. It is the surgeon's responsibility, working with the county medical society, to see that educational programs are established that will inform the general practitioner of the proper means of early treatment of burns, fractures, and multiple injuries.

The surgeon's role, naturally, follows in the field of trauma—but cannot be removed from that form of surgery which is reconstructive or corrective in nature. World War II emphasized the early need for rehabilitation programs. Pearl Harbor had several thousands of casualties in burns and injuries, and a rehabilitation center was set up at once to treat these cases, and eventually return them to a useful way of life.

The amputee is probably the easiest of all classifications to be rehabilitated. Surgical techniques have been so well developed that it is now commonplace to perform the necessary surgical procedures that fit in with prosthetic appliances. Not only in our own country but in Germany prosthetic devices are so ingenious that amputees are made completely mobile and the prosthetic appliances function amazingly well.

Injuries of the head and spine require a much more complicated train of processing

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\*Deceased December 7, 1959. Read before Alabama Surgical Section, United States Section, International College of Surgeons, Huntsville, May 22, 1959.



than do the extremities. Reconstructive surgery has developed at a rapid pace in the immediate years. Plastic repair that at one time was disappointing is, in the main, a success today. The use of antibiotics, the advanced techniques in the use of tissue grafts, as well as prosthetic appliances, have brought about a complete rehabilitation of many badly disfigured individuals.

There is scarcely a field in surgery that does not, at one time or another, come into the rehabilitation process—the orthopedic surgeon who has done so much in corrective surgery for the crippled child, the neurosurgeon who has devised ways and means of returning motor function to paralyzed muscles, and the plastic surgeon who is all-important in restoring morale to the badly disfigured.

The field is limitless. We have ahead the conquering of diseases such as Parkinson's disease, and the improving of neurosurgical techniques so that cerebral thrombus can be successfully removed. Vascular tumors can be isolated. The dramatic results that the thoracic surgeon has attained in the past decade are returning to active and useful lives thousands of critical cardiac patients. Since this is true, cardiovascular surgery will expand into all its fields and the hopeless invalid will again have an opportunity for useful living. There are many other surgical conditions that require definitive measures, such as the harelip, the congenital deformities—but these are within the range of present-day surgery.

The answer to all of these things is prevention. As in the case of poliomyelitis, where we now have promise of a vaccine that will eradicate this disease, there are still tens of thousands of damaged individuals who require help. In this, treatment is imperative—and, fortunately, it is at hand. But what of the millions of individuals who have a physical handicap, and who have no way of receiving help? What of the thousands of people who are being injured yearly? Last year more than 250 thousand men, women, and children received permanent physical

damage due to injuries in automobile accidents, and accidents in industry, in the homes, and on the farms. This provides more material for surgery, physical therapy, and all of the other corrective measures. It is the responsibility of the medical profession to move forward in the field of prevention of accidents as it does in the field of prevention of disease.

I believe that the surgeon has an added responsibility here, for he understands full well the difficulty of correcting the deformities that occur from accidents, and the economic problems that result from such things. He has an obligation in providing leadership in educational programs that can do much to cut down the incidence of accidents.

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An agent produced by the human body that appears to be capable of stopping the common cold and many respiratory infections was described by a London researcher. The agent is called interferon by its discoverer, Dr. Alick Isaacs, of the National Institute for Medical Research.

Interferon is produced by disease-causing viruses themselves. It is manufactured in many different animal cells that have been invaded by a virus. The virus-infected cells not only protect themselves with these interferon molecules but also confer resistance on other cells.

Dr. Isaacs has found that interferon can be produced with inactivated influenza viruses, fowl plague and Newcastle disease, measles, and poliomyelitis. Production of this agent is apparently a property of all viruses. Interferon produced by viruses that cause tumor growth does not inhibit the growth of the tumor, however. Interferon from one virus is active against other viruses but is much more active in animal cells from the same species.

Unlike vaccination, interferon apparently is effective against infections that have already started in the body. Infection-causing viruses can be inhibited successfully by interferon without harming body cells. The agent, a protein slightly smaller than an antibody, can be produced in monkey kidney cells for human use.

The report was presented before a conference of virologists in New York on January 26, 1960.

<p>ANNUAL SESSION ADMIRAL SEMMES HOTEL MOBILE APRIL 21, 22 and 23</p>
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# INDICATIONS FOR CATARACT SURGERY

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and

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The purpose of this paper is to set down some principles used to determine the indications for cataract surgery. Since the entire field of cataract surgery is a wide one, discussion will be limited to the adult senile cataract, and no attempt made at this time to deal with the subject of cataracts having congenital defects, trauma, or those complicating intraocular diseases as their etiology.

In general, the indications for cataract extraction are based on two cardinal principles which are germane to all surgery whether in the field of ophthalmology or not. These are:

1. The patient must benefit as the direct result of the proposed surgical procedure.
2. Prevention of complications.

In regard to the most frequently encountered condition, that of painless decrease in vision in patients over forty years of age, it is important to determine whether the activities of the individual concerned have been interfered with, or whether the patient feels he is unduly handicapped in performing the duties of his occupation or routine everyday affairs. With this in mind it becomes obvious that no one level of vision can be set as a standard for all individuals. Surgery is indicated earlier in individuals requiring acute vision in their work, such as attorneys and business executives, than in those requiring less acute vision—the farmer, the laborer, and retired and inactive individuals. For example, the attorney preparing contracts may find a cataract interfering with his work when the vision in the better eye is reduced to a level of 20/50; whereas, the laborer who is interested only in the newspaper headlines may get along without difficulty with 20/200 vision.

In fairness to the patient, several disadvantages of surgery must be weighed in the balance with the annoyance of the blurred

vision of early incipient cataracts and the clear central vision of successful surgery. The disadvantages of surgery are these:

The expense of hospitalization.

The several weeks time lost.

The 15% failures.

The photophobia and glare following lens extraction.

The later complications, such as detachment of the retina and glaucoma.

The disagreeable, thick, heavy lenses it is necessary for the postoperative cataract patient to wear, and the helplessness of the patient without glasses.

Clear vision is possible only through the exact center of the correcting cataract spectacles while a few millimeters away from center the vision falls to 20/200.

The disturbances in space perception and distortion of images.

Because of these disadvantages any case with a perfect surgical result and 20/20 corrected vision has a permanent 25 per cent visual disability as determined by the Council on Industrial Health, American Medical Association.<sup>1</sup> Obviously, any patient should have more than 25 per cent disability from cataracts before surgery is justified.

In an attempt to establish a working "rule of thumb," we have set a visual level of 20/70 as a dividing line for determining when surgery is indicated in those patients falling in the large general group of the population in whom average vision is required to carry out the daily routine. Consultation with another qualified ophthalmologist when lens extraction is contemplated in patients with vision better than 20/70 should be routine. In this way the public's best interest will be served by reducing the amount of unneces-

1. A. M. A. Archives of Industrial Health, October, 1955, Vol. 12, pp. 439-449.



sary surgery, and the physician's position is strengthened in those instances requiring special consideration. If the above is followed, better physician-patient relations are established.

In dealing with a patient with one cataractous lens and one normal lens, surgery should be deferred, because the patient will not benefit from cataract extraction in one eye while retaining good vision in the other. It is very difficult for patients to understand why this is true, but the honest surgeon will not take advantage of these patients who are convinced that to remove the cataract will make them see better. The only benefit would be to restore a very blurred peripheral vision field. The disadvantages are the failure to obtain binocular vision and postoperative diplopia. Mature cataracts should be checked regularly and carefully for possible complications that endanger the visual function of the eye; i.e., secondary glaucoma, iridocyclitis, and dislocation of the lens. Any of these is an indication for surgery.

Many patients have been led to believe that the diagnosis of cataract means imminent surgery. Their slight haziness of vision strengthens this belief. In the early stages with vision of 20/40 or better, there is very little impairment of vision and it is a serious abuse of the public confidence in the medical profession to operate on these people merely because the patient has the mistaken belief that he needs surgery. Very often the patient is able to read the smallest print while the vision for distance is reduced to 20/100 by senile cataractous changes of the lens nucleus. Surgery is seldom justified in these instances because the routine activities of the patient are impaired so little. When these patients are given a conscientious explanation that there is no medical indication for surgery, they are very grateful, and their confidence in the medical profession is strengthened.

The indications presented above may appear to be conservative, but it becomes obvious that cataract extraction is not a completely benign procedure. The restored vision

is never normal as the patient once knew it, in spite of the partial success of contact lenses.

Finally, cataract surgery, when done with proper indications, is the most gratifying of all ophthalmic surgery. As the patient with cataracts discovers his vision slipping away, he is overpowered by the fear of helplessness. In time, simply moving about becomes a problem. Then, as one patient described his feelings after successful surgery, "I sat on the porch, put on my new glasses for the first time, and there was my neighbor across the street washing his car. I knew then that no human sense is so precious as sight."

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A live polio vaccine produced in Russia—the first to be tested in this country—has proved inferior to those being used in the United States, according to a study of the Soviet vaccine made recently by Dr. Gordon Meiklejohn of the University of Colorado School of Medicine.

The Russians, Dr. Meiklejohn pointed out, have concentrated on live polio vaccines, which are made from live but weakened polio viruses and administered by nasal inhalation. Vaccines used in this country in field trials are made from dead polio viruses administered by injection.

Twenty-seven volunteers from the Colorado School of Medicine staff and student body were given the Russian vaccine, and results were compared with a similar group who had received an American-made polio shot.

Researchers found that the U. S. inactivated vaccine and the Russian live vaccine were about equally effective in producing antibodies to fight polio in persons who had no detectable antibodies before the vaccines were administered.

"In producing a booster effect in persons who had antibody before vaccination, the live vaccine appeared to be inferior to the inactivated vaccine," Dr. Meiklejohn said.

"While the data presented here tend to support the generally held opinion that inactivated vaccines are preferable to live vaccines, it seems advisable to conduct further comparative studies," he said.

<p>NEXT ANNUAL MEETING ADMIRAL SEMMES HOTEL MOBILE APRIL 21, 22, 23</p>
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## DISEASES AND COMPLICATIONS OF THE FEMALE URETHRA

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From a position in medical literature of almost complete neglect, the female urethra is now acknowledged to have a significant part in many pelvic disturbances. Not infrequently we still see, in our daily examination of patients, the female cripple who has had all her normal female organs removed, to find later that her entire trouble was the result of a small, painful caruncle in the urethra.

The chief factor which contributes to the clinical importance of the urethra is its anatomic position. The meatus lies in the vestibule at the roof of the vagina between the labia minora. It is constantly bathed in vaginal, uterine, and rectal discharges from the period of the diaper to old age. It is also exposed to infections during coitus and to trauma during labor and gynecologic operations.

The female urethra is 4-5 cm. in length, extending from the neck of the bladder to the vaginal outlet. Its only function is to carry urine from the bladder during urination. The urethra is a muscular organ, but its normal caliber will permit passage of a # 24 French sound.

The female urethra resembles the posterior male urethra. They are approximately the same length and both have periurethral glands with ducts opening into their lumina. These glands are subject to many abnormalities, cyst formations, and infections. Hypospadias is fairly common and often associated with stenosis of the external meatus, opening high in the anterior vaginal fornix. These congenital stenoses are often seen in childhood, and, if not corrected, may go undiagnosed until adulthood. Stenosis of the urethra predisposes to attacks of chills, fever and all the symptoms of cystitis.

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Read before the Alabama Section, U. S. Section, International College of Surgeons, Huntsville, May 22, 1959.

### URETHRITIS

Acute urethritis in the female is due in most cases to gonorrheal infections, although acute inflammation may result from other cocci or from the colon bacillus. With gonorrhea on the decline, we seldom make smears from the urethra unless we suspect this disease. The usual symptoms are burning, frequency, pain in the urethra, and urgency on urination.

Chronic urethritis is apt to be the same as an acute urethritis but of a milder degree. There is frequency, urgency, or a burning or stinging sensation on urination, and a constant dull pain which may be referred to the vagina, suprapubic region, or higher in the abdomen along the course of the ureters. These symptoms are often misleading and have often led to a mistake in diagnosis.

In the presence of urethritis, the urethra will be found to be thickened and somewhat tender on vaginal palpation. Skene's glands may or may not be involved and can be felt on either side of the urethral meatus.

Massage of the urethra may elicit an abundant discharge which may be only mucus with the absence of bacteria. It is always wise to place a speculum in the vagina and examine the cervix for endocervicitis which could be a focus of infection.

One learns by experience to suspect a focus of infection as the cause in urinary tract infection, when local infection has been ruled out. When symptoms appear only periodically, with intervals of a few months relief, we are always suspicious of some distant, underlying cause.

Treatment consists of dilatation of the urethra and emptying of the glands by massaging the urethra over the sound. Application of 2 to 5% silver nitrate, on an applicator, along the entire course of the urethra gives much relief of symptoms. Antibiotics and triple sulfas are beneficial, along with



weekly treatments to the urethra. If much granulation tissue and protrusion of the urethral mucous membrane persist and pain continues, excision with the electrosurgical unit is advisable.

Postmenopausal urethritis occurs, in the 40-50 age group, with mild symptoms of urethritis. These patients have, on examination, all the signs of postmenopausal thinning and atrophy of the vaginal mucous membrane, with splotchy areas of reddening and edema present. Dilatation of the urethra at weekly intervals and estrogens orally and as suppositories give satisfactory results.

#### URETHRAL CARUNCLE

A careful examination of a painful urethra often discloses a small reddish-blue, new growth, varying in circumference from the size of a match head to that of a large bean. Most of these growths are very tender but, under local anesthesia, they can be removed with an electric needle.

These small tumors are a proliferation of the urethral mucous membrane and may be on a pedicle or a large base. They are easily overlooked on pelvic examination, but by opening the meatus with a hemostat the tissue comes into view. Caruncles can be differentiated from papillary tumors in that the latter are less painful and usually protrude from the meatus. This tissue should always be sectioned and examined for possible malignancy, although rarely does malignancy occur in the urethra. Follow-up treatments with urethral dilatation are always necessary to prevent stricture formation and promote healthy wound healing.

#### URETHRAL STRICTURE

There is a wide divergence of opinion in regard to the incidence of stricture of the female urethra. Such diversity of opinion is probably best explained on the basis of what constitutes a stricture, and we must not confuse a narrow, small caliber urethra with a stricture of the urethra.

Congenital stricture or narrowing of the urethra does exist, and dilatation may be necessary in infancy to permit emptying of

the bladder. Traumatic strictures following childbirth exist and are among the complications of delivery. Acquired strictures, whether due to gonococcal urethritis or some other organism, are seen in practice and all require the same treatment. A catheterized specimen of urine is usually sterile, unless complicated with an associated cystitis or pyelitis, as is frequently the case. In office practice, we apply a 5% Cyclaine in the urethra on a cotton pledget and leave for five minutes.

The urethra can then be dilated up to a # 22-24 sound. It may be necessary to dilate some urethras up to a # 30 French sound.

Clinicians usually make the diagnosis of stricture of the urethra from the symptoms, such as frequency of urination, burning, urgency, low back pain, partial incontinence and dribbling. Residual urine is seldom found even in very tight strictures.

#### DIVERTICULUM

Urethral diverticulum in the female is a pouch lying between the urethral and vaginal walls communicating with the urethra. It is formed by the dilatation of a portion of the urethrovaginal septum.

The diverticula are often asymptomatic because of their tendency to periodic emptying and may be overlooked on urethral and vaginal examination; but the increased awareness of this problem proves that they are not too infrequent. When routine examination includes a search for diverticula of the urethra, the number found rises. American literature states that this lesion is considered to occur rarely, but many authors believe it is frequently overlooked.

Hyman, in his book, divides urethral diverticula into two classes: one, wide mouthed, a urethrocele, and the other, with a small neck, a diverticulum.

Lane, in the British Journal of Urology, states that the condition is more common in the United States, or is being diagnosed and reported more often than in Great Britain. British textbooks on urology and gynecology are reticent on the subject.



Diverticula have been observed similarly in young, middle-aged, and elderly individuals. Many theories have been advanced as to the etiology of urethral diverticula, and controversy exists as to whether they are congenital or acquired. Although occasionally congenital, usually these diverticula are the result of trauma or an abscess into the urethra.

Cysts may arise from congenital rests in the urethrovaginal septum, such as Gartner's duct or occluded paraurethral glands. It is possible that these cysts may rupture into the urethra and later become infected. Wharton states that diverticula may either be congenital or acquired and that the small multiple cysts and diverticula probably originate in the periurethral glands.

Trauma from frequent childbirth, infection, or both, superimposed on an already existing congenital defect in the urethra, must be recognized as a plausible etiologic factor.

There is usually a history of repeated attacks of increased frequency and dysuria, with nothing specific to suggest the underlying cause. In other words, the symptoms are not always the same and a diagnosis is not easily made by the history alone. Urethral diverticula may cause chills, fever, headache, and general malaise. This is often true during the first attack or when the duct to the pouch is closed. A vaginal mass or a fullness in the region of the urethral meatus may be among the complaints and become worse on sitting or during coitus. The most common symptoms, however, are those of frequency, urgency, and occasional hematuria. Dribbling of a few drops of urine after urination was among the complaints in many of our patients. Catheterized specimen of urine will be sterile unless there is an associated trigonitis, cystitis, or pyelitis, which may often be the case.

Pain in the urethra and vagina accentuated in the sitting position, and particularly during coitus, is one of the more common complaints. There is usually a history of intermittent discharge of pus or purulent urine from the urethra. Associated stricture

at the meatus or along the course of the urethra may give additional symptoms such as pain referred to the urethra, bladder, sacrum, inguinal region, or one or both lumbar regions.

The diagnosis of a urethral diverticulum is made by combining a careful history and a vaginal and urethroscopic examination.

Pelvic examination reveals a fluctuating, somewhat tender mass in the urethrovaginal septum. Pressure on the mass results in a discharge, either of pus or a few drops of cloudy urine. Often the urine is foul smelling and, occasionally, a bloody discharge is present. If calculi are present, they may easily be palpated and crepitus can be elicited.

Transillumination with any type of small lamp, with vaginal observation, is often of great assistance in making a diagnosis. The best test is to examine the urethra with the panendoscope.

The orifice of the diverticulum may not always be found for often the ostium is occluded. These openings may be anywhere along the course of the urethra.

An accurate determination of the size and extent of the ramification of the diverticulum can best be demonstrated by radiography. The bladder and urethra are filled with an opaque medium. The urethral meatus is blocked and the patient asked to void. We use an Asepto syringe, filling the bladder with 5% sodium iodide, and the urethra with a sterile solution of Thixokon, Mallinckrodt.

The treatment should depend on the stage of the diverticulum, whether it is acute or chronic, and the degree of its severity. Symptomless diverticula, found at examination, need not be treated. The smaller diverticula may respond to treatment with antibiotics and dilatation of the urethra, which will sometimes open the ostium, permitting the drainage to escape through the urethra.

The treatment of choice is surgical eradication of the sac in chronic cases and suturing the rent in the urethra, if possible. In the acute conditions, incision and drainage may



be necessary, but antibiotics and application of heat will suffice in most instances.

## ANOMALIES

Anomalies of the female urethra occur often enough that we should be on the lookout for them. Agenesis or absence of the urethra does occur but is extremely rare. Hypospadias and epispadias are not too uncommon. Ectopic ureteral openings are always distal to the sphincter in the female and usually result in dribbling of urine, day and night, and are of much concern to the patient. The ureter which opens into the urethra always drains urine from the upper pole of the kidney, and the other ureter drains the lower pelvis of the same kidney.

We were aware of the leaking of urine from the urethra in our first case, but at no time could we demonstrate the meatus with the urethroscope or by blindly passing a catheter into the meatus and inserting it into the upper kidney pelvis. The upper pole of the kidney was removed and a catheter was then inserted down the ureter and out the urethra. The ureter which was of small caliber was severed in its mid-third, and the patient made an uneventful recovery.

The second patient had a normal intravenous pyelogram but continued to complain of pain in the region of the left kidney and an intermittent profuse discharge from the urethra. The right kidney was much lower than the left, but no upper pole with an

additional ureter could be demonstrated by pyelogram. We were suspicious of either a diverticulum of the urethra, which extended up underneath the trigone, or an additional ureter opening into the mid-portion of the urethra. An indurated area was palpable on the right wall of the vagina extending from the urethra upward. Urethrograms were made under pressure, which revealed the right ureter passing upward above the outline of the bladder (Fig. 1). A right nephrectomy and bilateral ureterectomy was performed removing the upper ureter from underneath the bladder. Patient had a bifid pelvis and a duplication of the ureters on the right side. Patient made a satisfactory recovery and is now free of pain and urethral discharge.

## CONCLUSION

I. Every pelvic examination should include at least a superficial urethral examination.

II. Urethritis should be considered in all females that have frequency, urgency, low back pain, etc. These symptoms are not always indicative of cystitis.

III. Catheterize female patients.

IV. Use local anesthesia before dilating the urethra.

V. Ectopic ureteral opening into the urethra should be suspected when patient has a persistent urethral discharge or continuous dribbling of urine.

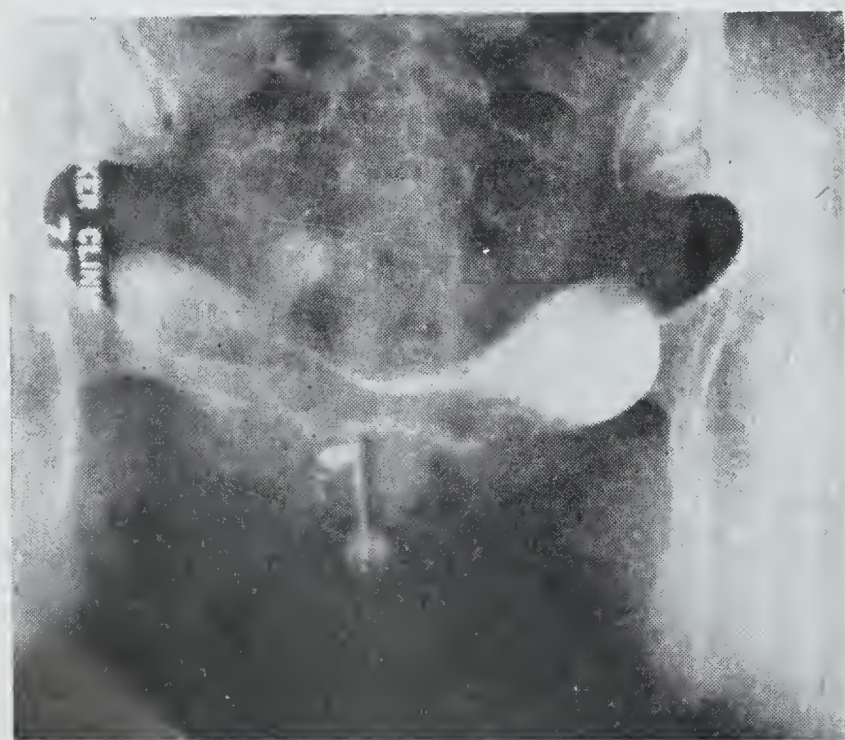


Fig. 1. Case 2. Urethrogram reveals the lower portion of the right ureter. The upper part of the ureter could not be demonstrated.

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99th ANNUAL SESSION

MEDICAL ASSOCIATION OF THE STATE OF  
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APRIL 21-23

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# A PRELIMINARY REPORT ON THE USE OF HYDROXYZINE (VISTARIL\*) AS A PREMEDICANT FOR SURGICAL PATIENTS

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An evaluation of parenteral Vistaril® for preoperative medication was initiated since the compound was observed to possess many pharmacologic properties which are beneficial to maintenance of a smooth anesthetic course. Since other drugs which have been used similarly (notably derivatives of phenothiazine) have been shown occasionally to produce hypotension,<sup>1</sup> jaundice,<sup>2</sup> bizarre extrapyramidal symptoms,<sup>3</sup> and blood dyscrasias,<sup>4</sup> it was decided to study the effects of Vistaril® on vital functions, and to note the occurrence of any untoward side effects.

This drug was found to be miscible with atropine, scopolamine, and Demerol.® It may be used concomitantly with all of the usual preoperative medications. Thus, parenteral Vistaril® appeared to warrant a trial to determine the degree of effectiveness as an adjunct to the usual preoperative medications.

## CHEMISTRY AND PHARMACOLOGY

Hydroxyzine hydrochloride (Vistaril®) is a derivative of piperazine which has been dem-

onstrated to have the following pharmacologic activities in experimental animals:<sup>5, 6, 7</sup>

1. A reduction in the spontaneous motor activity.
2. An antagonism to the emetic effect of apomorphine.
3. An antispasmodic effect, blocking the spasmogenic action of histamine, serotonin, and acetylcholine.
4. Ability to protect against asthma in animals sensitized to ovalbumin with definite antianaphylactic activity.
5. An ability to protect the heart against certain epinephrine-induced arrhythmias.
6. A local anesthetic effect.
7. A low toxicity with an oral L. D.<sub>50</sub> of 550 mg./kg. in mice.

In humans Vistaril® has been reported to be a useful calming agent in all age groups.<sup>7, 8</sup> Also, the drug has been successfully used in the management of various cardiac arrhythmias and in treatment of acute alcoholic intoxication.<sup>9, 10</sup> The authors were unable to

The author and co-author are Director and Senior Resident, respectively, Department of Anesthesiology, Lloyd Noland Hospital.

\*This drug, hydroxyzine hydrochloride, was supplied by Charles Pfizer Laboratories, Brooklyn, N. Y.

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find reports of any serious side effects or contraindications.

METHOD

Vistaril® was administered preoperatively to a total of 300 patients who underwent surgery. This report gives an analysis of the first 100 cases. The patients were of both sexes, ranging in age from 10 to 72. Table I lists the types of surgical procedures for which preoperative Vistaril® was administered. Each patient was thoroughly examined. An anesthesia history was obtained by a member of the Department of Anesthesi-

ology, and medication prescribed according to the physical and mental condition of the individual patient and according to the proposed procedure. The dosage varied from 25 mg. to 100 mg. via the intramuscular or intravenous route, one hour before surgery. In most cases one-half of the therapeutic dose of Demerol® was given together with Vistaril®. About one-fifth of the patients received only atropine or scopolamine with Vistaril®. These were in short procedures which required less analgesia.

The majority of the patients were given Sodium Pentothal® with nitrous oxide supplement. The agents and methods used appear

TABLE I  
OPERATIVE PROCEDURES

Abdominal	
Cervical dilatation and uterine curettage .....	15
Bilateral tubal ligation .....	7
Hysterectomy .....	1
Hernioplasty, inguinal .....	7
Appendectomy .....	6
Entero-enterostomy .....	1
Enterolysis and exploratory laparotomy .....	1
Exploratory laparotomy .....	1
Fractures	
Open reduction and insertion of nail .....	3
Open reduction, internal fixation .....	2
Closed reduction .....	5
Open fracture, cleanse and close .....	1
Reduction of dislocation .....	1
Elevation, depressed fracture of malar bone .....	1
Rectal	
Hemorrhoidectomy .....	2
Fistulotomy .....	1
Dental	
Multiple and full mouth extractions .....	13
Burns	
Dressing and relaxation of eschar .....	1
Skin graft .....	1
Incision and drainage .....	6
Excision	
Cyst and ganglion .....	2
Calcified muscle .....	2
Bursa .....	2
Lipoma .....	2
Acromial tip and calcification .....	1
Mass, breast .....	1
Carotid arteriogram .....	1
Excision, incarnatio unguis .....	5
Thyroidectomy .....	2
Keller bunionectomy .....	1
Debridement and closure of laceration .....	2
Medial meniscectomy .....	1
Tonsillectomy .....	1
Suture, lacerated lip .....	1
Total	100

TABLE II

	No. Cases
Pentothal® or Surital® with N <sub>2</sub> O Supplement .....	67
Pentothal® or Surital® Induction—Cyclo- propane .....	16
Pentothal® Induction—Ether .....	4
Spinal Anesthesia .....	10
Epidural .....	2
No Anesthesia .....	1

in Table II. Additional doses of Vistaril® were given intravenously during anesthesia when indicated, or when specific drug responses were being studied. Included was observation for sedation in regional, spinal, and epidural anesthesia, and in patients in whom a high incidence of postoperative delirium was anticipated.

A detailed report summarizing the observed response before, during, and following surgery was completed on each patient within 24 hours. Close observation was made on all patients for at least five days postoperatively unless they were discharged earlier.

RESULTS

Our early observations led us to believe that Vistaril® alone in small doses did not produce sufficient quiescence, but when larger doses were used the degree of quiescence was found to be adequate. In short minor surgical procedures the addition of a parasympatholytic agent (usually scopolamine) produced satisfactory premedication. In procedures such as cervical dilatation and curettage, and in emergency cases involving



alcohol-intoxicated patients, Vistaril® and a drying agent produced satisfactory premedication. In major traumatic or painful surgical procedures a narcotic was used to prevent postoperative delirium.

On arrival at the operating room, 60 patients were dozing but were easily awakened and cooperative. Of 21 patients who received no narcotic, 11 were awake. Five patients were judged to be apprehensive and inadequately premedicated. One patient was found to have a sinus tachycardia which slowed on induction of anesthesia. All patients had a smooth induction and maintenance of anesthesia. Most patients were reacting while they were being transferred to the recovery room. No postoperative delirium was noted in patients undergoing major traumatic surgery or full mouth teeth extractions. Only five patients had slight emergence nausea. The absence of emesis was notable in 20 patients who had eaten shortly before being admitted for emergency surgery.

Two patients had not received Vistaril® preoperatively. One patient undergoing an appendectomy under spinal anesthesia was effectively given 50 mg. of Vistaril® intravenously for restlessness. The other, a patient undergoing a hernioplasty, had been given a spinal anesthetic and developed nausea which was controlled completely with 50 mg. of Vistaril® intravenously. One patient, who was having one of many changes of burn dressings which had required general anesthesia previously, was given 100 mg. of Vistaril® intravenously and submitted to the change of dressing without complaint. The patient actually assisted with the procedure by sitting up, with aid, and moving his extremities as directed.

Vistaril® was effective in controlling the agitation in one uncooperative acute alcoholic. This patient became calmer and cooperative after the administration of 75 mg. of Vistaril® intramuscularly. The absence of vomiting during emergence in four intoxicated patients who had general anesthesia with Vistaril® premedication was quite striking.

There was no clinical evidence of respiratory depression or hypotension due to Vistaril® in any of the patients, nor were any significant cardiac arrhythmias detected during anesthesia. Vistaril® appeared to be free of any side effects, regardless of when it was administered, even in doses in excess of 100 mg. intravenously.

When used concomitantly with a narcotic, Vistaril® appears to have an additive rather than a potentiating effect. This additive effect occurs with either barbiturates or narcotics, and in no instance did Vistaril® produce detectable depression, even when used following the administration of intravenous narcotics or barbiturates.

#### DISCUSSION

Apprehension, anxiety, and fear are commonly observed in the patient who is scheduled for surgery. These may often be more pronounced in the patient admitted for emergency surgery than in the patient who has adequate time for preoperative preparation and adjustment to the hospital environs. The reason for this may be that the patient admitted for emergency surgery often suffers emotionally because of the unexpected injury and because of factors which are related to the injury. The busy, efficient, and seemingly indifferent atmosphere of the emergency unit does nothing to calm the patient, and often there is not sufficient time to alleviate the patient's fear by the establishment of rapport.

The authors would like to point out that although drugs are utilized in preoperative preparation, the patients are stimulated by the anesthesiologist to discuss their fears concerning the operation and anesthesia. A few minutes spent in getting the patient to ventilate his problems, with whatever explanation and assurance seem necessary by the anesthesiologist, cannot be replaced by any known drug therapy.

Evaluation of the effectiveness of medication to control preoperative apprehension, anxiety, and fear is most difficult because of wide individual variation in patient response



to drugs. The magnitude of the proposed surgery and numerous other variable factors also contribute to this difficulty.

Nausea and vomiting, although not of the magnitude of some years ago, occur more frequently in patients for emergency surgery because of inadequate preoperative preparation. Often the patient has eaten within a few hours before the operative procedure, so that the stomach contains food. Sometimes, as a further complication, the patient has consumed alcoholic beverages and may be uncooperative and agitated.

#### SUMMARY AND CONCLUSION

The pharmacologic effects of Vistaril,<sup>®</sup> as observed in this series of 100 patients, indicate it to be an effective and safe drug to use for preoperative medication and intravenously as needed during operation. Preoperative apprehension, anxiety, and fear were effectively controlled with Vistaril.<sup>®</sup> The patients arrived in the operating room in a wakeful state, or in a dozing state from which they were easily aroused. Immediate preoperative depression of blood pressure or respiration was absent in all of the cases. All patients had a smooth anesthetic and postanesthetic course, and no complication of usage was observed. There were only five cases of mild postoperative nausea, despite the fact that many patients had eaten shortly before surgery, or were intoxicated from alcohol in varying degrees. These intoxicated patients reacted smoothly from their general anesthetics without nausea and vomiting. Such cases may represent an absolute indication for the preoperative and operative use of Vistaril.<sup>®</sup>

Although severe hypotension results occasionally from the phenothiazine drugs used similarly, it was notably absent with Vistaril.<sup>®</sup> Such a drug, which produces an ideal preoperative state without depression of vital functions, and is also an excellent anti-nauseant, will undoubtedly help to fill the spacious void in present preoperative regimens.

#### NEPHROTOMOGRAPHY CALLED VALUABLE DIAGNOSTIC AID

The radiographic technique of nephrotomography, utilizing the contrast agent Hypaque, "yields a high degree of diagnostic accuracy in differentiating between renal cysts and carcinoma," according to results of a clinical study reported in the *Journal of Urology*.

The procedure was employed in 500 consecutive cases at New York Hospital, it is stated by Drs. Kuo York Chynn and John A. Evans. The diagnostic accuracy was 95 per cent for renal cyst and 84 per cent for renal carcinoma. The technique's outstanding value is in connection with a poor risk patient, where a definite diagnosis of renal cyst may avoid a major operation.

"In the last one hundred cases there has been only one diagnostic error, a carcinoma being diagnosed as simple cyst," the investigators report.

As a consequence of its effectiveness, they say that nephrotomography is now used routinely at New York Hospital. In the 500 cases studied, intravenous or retrograde pyelography prior to nephrotomography showed a suspicious lesion in the kidney, most commonly a space-occupying mass.

The technique recommended by the investigators consists of injection of 30 cc. of 50 per cent Hypaque into the antecubital vein to increase the nephrographic phase are then obtained after rapid intravenous injection of 50 cc. of 90 per cent lukewarm Hypaque. Rapid injection is suggested as necessary to obtain good visualization of the abdominal aorta and renal arteries. This arterial phase is outlined in about 75 per cent of cases.

In many cases, it is noted, the quality of opacification "was comparable with that obtained in translumbar aortography."

The study showed that there were no serious side effects or fatalities.

#### NEW PSYCHOTHERAPEUTIC DRUG BRINGS IMPRESSIVE RESULTS

A new psychotherapeutic drug, methaminodiazepoxide (Librium), has produced "impressive" results in the treatment of various mental disorders, according to Dr. Titus H. Harris, a Galveston, Texas psychiatrist.

Writing in the *Journal of the American Medical Association*, Dr. Harris said the drug reduces anxiety and agitation but does not cloud consciousness or impair intellectual function.

"My experience with its use in all types of anxiety, such as convulsive disorders, tension states, obsessive-compulsive conditions, agitated depressions, and jitters in alcoholics indicated that methaminodiazepoxide is one of the most interesting drugs of its type that has been developed," he said.

"Of special interest is its apparent effectiveness in obsessive-compulsive neuroses, which have thus far defied chemotherapeutic management."

Dr. Harris said the drug exerts three primary actions—tranquilization, muscular relaxation, and anticonvulsant effect.



USE OF AMERICAN STANDARD MEASURING SPOONS  
FOR ADMINISTRATION OF LIQUID MEDICINES

ROBERT E. CLOUD, M. D.  
Birmingham, Alabama

Until recently there have not been available small home utensils of definite capacities for measuring doses of liquid medicines.

In the latter part of 1948 the American Home Economics Association requested the American Standards Association, Inc. to initiate a project on standardization of terminology, sizes, measurements and markings of baking and top-of-range cooking utensils. A general council of interested groups was organized. This included, among others:

- American Home Economics Association,
- American Hospital Association,
- U. S. Department of Agriculture—Bureau of Human Nutrition and Home Economics,
- U. S. Department of Commerce—National Bureau of Standards,
- U. S. Department of Labor—Bureau of Labor Statistics.

Mrs. Elizabeth Sweeney Herbert, principal representative of the American Home Economics Association was made permanent chairman and Mr. George Sommeripa of the American Standards Association staff was elected secretary.

Of the standards established for the various household baking and home cooking utensils, that for the spoons is of particular interest. The nomenclature, capacities and tolerance are shown in the accompanying table.

TOLERANCE OF MEASURING SPOONS			
Spoons Level Full	Capacity of Spoons, Cubic Centimeters	Tolerance (Plus/Minus) for Spoons	
		Cubic Centimeters	Per Cent
1 Tablespoon	14.79	0.73	5
1 Teaspoon	4.93	0.24	5
½ Teaspoon	2.46	0.12	5
¼ Teaspoon	1.23	0.06	5

COMMENT

While spoons, by reason of their shape, are not suitable for accurate measurement of liquids, the fact that those found in the home

vary in size adds an element of error to doses of medicine given by such means. Standard spoons share the disadvantage of shape. However, standardization offers dependable utensils that, level full, are within 5% (plus/minus) of definite capacities. The ¼ and ½ teaspoons in these sets furnish means of measuring small doses of medicines for infants and small children.

The established American standard is intended as a guide. All manufacturers do not conform to it but producers that do so are encouraged to show, on their own responsibility, on tags, labels or stamped on the goods that the articles are standard.

These measuring spoon sets cost only a few cents and no doubt druggists would carry them in stock if requested to do so.

Note: Data in the foregoing regarding American Standard Measuring Spoons are obtained from a booklet, "American Standard—Dimensions, Tolerance and Terminology of Home Cooking and Baking Utensils," published by the American Standards Association, Inc., October 27th, 1949.

Rheumatoid arthritis is known to be associated with cardiac disease, producing granulomas in the heart and serous membranes. Apart from these, rheumatoid spondylitis seems to be fairly often associated with aortic insufficiency. Four cases are reported from a group of 39 patients with this type of spondylitis. In two cases the patients died and an autopsy was done in one. Microscopic examination of the aorta revealed thickening of the walls of the vasa vasorum with narrowing of the lumen, perivascular lymphocytic infiltration and necrosis of the media with some calcification and polymorphonuclear infiltration.

The morphology of this aortic lesion is not characteristic, but since there was no evidence of any other disease it was probably a true rheumatoid aortitis.

Reprinted from *Acta medica Scandinavica* and World Wide Abstracts. Ole Storstein/Erick Waaler.





## Editorials

# POWERFUL ATTEMPT TO ENACT FORAND BILL IN PROGRESS

*Will the federal government write itself into the health insurance business?*

*The Wall Street Journal reports that proponents of Forand-type legislation are winning support from southern Democrats and conservative Republicans.*

### POLITICAL MEDICINE IS BAD MEDICINE

Revolutionary advances in medicine have opened entirely new approaches to curing illness. Since 1900, better medical care has helped to increase the life expectancy of the average American by more than twenty years.

Obviously, this is very real progress. In big measure, this has been made possible by the opportunity of American physicians to work in freedom—as individual to individual, as physician to patient, free of governmental dictation.

When this opportunity to work in freedom is restricted or abolished, the American people suffer; and American medical progress suffers.

Yet there is now under consideration in Washington a bill that would undermine this freedom and destroy the voluntary progress that has achieved so much for our citizens. This bill (H. R. 4700), sponsored by U. S. Rep. A. J. Forand of Rhode Island, would finance—through higher social security taxes

—hospital, surgical and nursing home treatment for some 16 million persons eligible for social security payments.

There are many reasons why this legislation should be decisively defeated.

The bill—a political approach to a health problem developed by non-medical people—would put the federal government into an area of health care in which it is badly equipped to function; it would cripple and gradually replace voluntary health insurance; it would jeopardize the traditional doctor-patient relationship; it would put an agency of the federal government in the role of setting fees for physicians and charges for hospitals and nursing homes; it would mean that an agency of the federal government would administer the program and stipulate the type of care to be provided; it would swing open the gates to the socialization of medicine.

Moreover, the bill would be staggeringly expensive. Authoritative estimates indicate the cost would be in the neighborhood of \$2



billion for the first and second years. Yet this would be only the beginning. The costs would keep on rising. Everyone who pays social security taxes would be forced to help foot the bill. This means pay checks would keep on dwindling.

As every wage earner knows, the tax went up on January 1 of this year. A worker earning \$4,800 now pays a tax of \$120 and his employer pays \$120. By 1969—if the tax increases remain as scheduled and are not raised—the tax will be \$216 for the worker and \$216 for the employer or a total of \$432. This combined total is more than double the average federal income tax today for a married man with two children.

The original estimate of the cost of England's National Health Service plan was 130 million pounds a year. The cost today has skyrocketed to 690 million pounds a year.

In an article on the 10th anniversary of the National Health Service, the British paper, *The Sunday Express* says, "If we let the present machinery grind expensively on, we shall face a bill at the end of the next 10 years of 1.4 billion pounds (or about 3.92 billion American dollars). And 'free' medical care will have brought Britain to the verge of penury."

Commenting on the cost of the Forand bill, a front-page article in the *Wall Street Journal* points out that some Congressmen are "... concerned lest constant liberalization of benefits requiring greater and greater tax increases may finally push Social Security tax rates to a level so high as to provide a popular revolt against the entire system."

Despite its enormous cost, the Forand Bill would not help the indigent aged, for the vast majority of our senior citizens are not eligible for social security retirement and survivorship benefits. And, the inflationary effects inherent in a bill of this nature would hurt, not help, the aged who depend on pensions and other fixed income for security.

Thus the proponents of the Forand Bill prove their interest in socialization . . . not in people.

But, most important of all, the bill would reduce the quality of medical care. It would result in poorer—not better—medical care for the people of this country.

The truth is that the health requirements of our citizens—the elder citizens certainly included—can never be met through inflexible methods made compulsory by the federal government.

When the federal government, no matter how good its intentions, attempts to solve the challenges posed by those millions of Americans over 65, it is foredoomed by the very inflexibility of its approach to certain failure.

What do the facts show? The facts show that private, voluntary methods are working and working well. At this time about 43% of our citizens over 65 are covered by private health insurance. Much of this growth has occurred within the past few years. Certainly, there is every sign that this growth will continue. Sound estimates indicate that 75% of our elder citizens who need and want such protection will be covered by voluntary health insurance by 1965 and 90% by 1970.

Actually, that is only a small part of the story of the voluntary progress of our elder citizens in recent years. Throughout the United States, retirement villages, new nursing homes, chronic disease care centers, home care programs, recreational facilities and research projects have been established, and many, many more are on the way.

All this is good. Still, it is essential that American medicine does not attempt to relax and rest upon its oars. There is still work to be done. It is vital that more and more physicians take a role of leadership in their own communities in expanding and improving practical programs that will help the aged to help themselves. It is vital that physicians throw their weight behind such programs as homemaker services, progressive patient care, high-standard nursing home care, and so on. It is vital that physicians encourage their patients to carry Blue Cross, Blue Shield or commercial insurance.



And, no doubt about it, it is vital that physicians speak out their convictions.

For, according to a recent issue of the Wall Street Journal, the proponents of the Forand Bill have gained considerable support in Congress recently.

Many Congressmen report they have been flooded with letters, resolutions, telegrams, and telephone calls from supporters of the bill.

The Wall Street Journal story also reported that some southern Democrats and conservative Republicans are now leaning towards Forand-type legislation. With 1960 a Congressional and a Presidential election year, these reports have special significance. Historically, Congress has increased and expanded social security benefits regularly in each Congressional election year.

At the time of this writing the House Ways and Means Committee is holding hearings on the entire Social Security System. On March 23 Arthur Fleming, secretary of the Department of Health, Education and Welfare, appeared before the House Ways and Means Committee to present the views of the Administration with respect to H. R. 4700 (Forand Bill), 86th Congress, and other possible amendments to the Social Security Act.

His specific recommendations to the Committee dealt with "technical" amendments to the Social Security Act. He reiterated the *opposition* of the Administration to H. R. 4700. He stated that although his Department was studying numerous possible alternatives to the bill, none had Administration approval. He indicated that these studies would be continued and that he was hopeful of preparing some type of recommendation for presentation to the Committee probably after the White House Conference of January, 1961.

Subsequently Congressman Forand filed a Discharge Petition, H. Res. 483, requesting that the Rules Committee present to the House of Representatives the substance of H. R. 4700, despite the failure of the House

Ways and Means Committee to consider favorably this legislation. It will be necessary for Mr. Forand to obtain the signatures of 219 members of the House of Representatives before his Discharge Petition can be favorably considered.

Even if this petition fails, a Social Security bill adopted by the House will eventually be considered on the floor of the Senate. Senators Kennedy and Humphrey, among several, will probably attempt to amend the Social Security bill to include Forand-type provisions. Until any such attempt on the floor of the Senate is defeated, we cannot speak of victory.

The American Medical Association and the Medical Association of the State of Alabama are making an appeal to you to make known to your Congressmen our opposition to legislation of this type.

The Association strongly urges you to write at least one letter to your Congressmen. This letter should:

1. State your opposition to the Forand Bill.
2. Cite the reason for your position.
3. Point out that care of the aged is a local problem to be met on the state level and that adequate medical care for the aged is provided in Alabama under existing programs.
4. Request your Congressmen to contact members of the House Ways and Means Committee and make known your views.

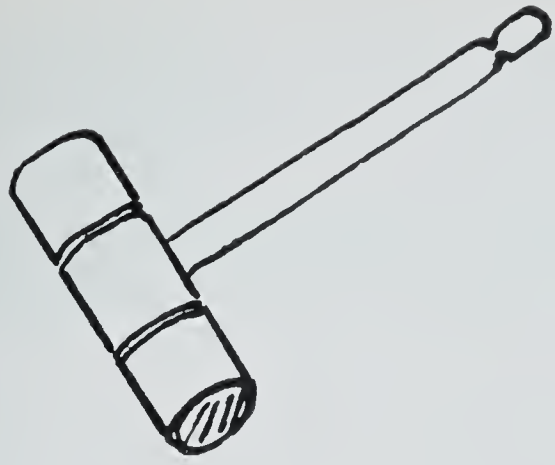
A copy of all correspondence should be sent to Rep. Wilbur D. Mills, Chairman of the House Ways and Means Committee, House Office Building, Washington 25, D. C.

ANNUAL SESSION

MOBILE

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# President's Page

## TWENTY YEARS AGO

**A**usterity characterized the Association's 1940 President—austerity here meaning "gravity in attitude." He was grave in aspect, disposition and judgment, and all his thoughts were serious ones. And yet, beneath the stern exterior, there was a heart of gold. Most commanding was his use of the language, illustrated by this brief quotation: In his Message to the Association, Dr. Davie said: "The presidency of The Medical Association of the State of Alabama is an honor to be borne with great pride. To me it is an accolade—a token of my father's ambition for me. He was a horse and buggy doctor who died before his time, hoping, with but a modicum of foundation, that I might carry on with credit.

"Personally, the year now closing has been one of peculiar thrills. The first thrill was the dawning consciousness of a cooperative army standing at attention. Practically at no time did I call in vain for help, and never was I given a stone when I asked for bread."

Now that the term of office of the 1960 President of the Association has come to a close, the foregoing words of President Davie might well have been mine, possessed I the power to use the language as he could use it. Certain it is I have never called for help without receiving it, and without the support of friends in the organization I could not have kept my head above water. If I have one word of advice to give my successor it would

be to seek counsel freely, for it will be as freely given, and you and your counsellor will be the better for it.

In his message Dr. Davie paid a high tribute to the Secretary of the Association and reference is made to it because I have had an experience no other president has had in a long number of years, that of having his term of service end simultaneously with that of a secretary of the organization. In the light of the record the Association has helped him establish, in length of service one man has rendered his Association, I want these facts to be a part of my last President's Page: For the reason he was not a Counsellor, the Constitution of the Association requiring that the Secretary be one, he was Acting Secretary from October of 1923 until his counsellorship was attained, when he became Secretary in fact, and thus has continued until this day. In 1940 he was named Treasurer of our organization, and in this dual capacity he has served with devotion; and since its inception in July of 1931 he has served also as Editor of the Journal. All these responsibilities he will lay aside when the Association chooses his successor on April 23. I am glad we could be together in his last year in an official capacity. I know I speak for many when I say I wish the clock of the years could be turned back to begin again in a service that produced many lasting friendships and relatively few enemies.

*W. R. Carter*





## ORGANIZATION SECTION



Dr. Douglas L. Cannon's tenure as secretary-treasurer of the Medical Association of the State of Alabama and as editor-in-chief of the *Journal* will end on April 23, 1960.

Dr. Cannon announced last April at the annual session in Birmingham that he would retire following this year's meeting.

Dr. Cannon has served as editor-in-chief of the *Journal* since it was established in July, 1931.

On page one of the first issue of the *Journal* one finds the following quotation.

### "BON VOYAGE"

"Deal kindly, gentle reader and fellow member, with this our maiden effort. The field of journalism is for us still an uncharted sea. May we ask that you carefully scrutinize your 'first born' from cover to cover and send in to its 'god parents' such constructive suggestions as will speed up a lusty growth."

The lusty growth envisioned some twenty-nine years ago by Dr. Cannon has become a reality, and the twenty-nine volumes edited by him stand as a memorial to him and the

efforts he has made in behalf of the medical profession in the state.

Under his astute leadership, new features have been added to the *Journal* so as to make it of greater benefit to the membership.

Throughout the period Dr. Cannon has constantly striven to make the *Journal* keep pace with new and improved journalistic procedures. At the same time he has rigorously held to his sense of dignity befitting a professional journal.

The *Journal* will miss the strong guidance given by Dr. Cannon as helmsman on the initial and succeeding monthly voyages.

Those who follow Dr. Cannon will, however, have a fine model on which to base all future issues.

Bon Voyage, Dr. Cannon!

### AGING PROBLEMS DISCUSSED BY JOINT COUNCIL

Two of the fourteen subcommittees of the Governor's Advisory Committee on Aging met with the Joint Council To Improve The Health Care of The Aged on February 23 at the Chilton County Nursing Home in Clanton.

Meeting with Dr. J. J. Kirschenfeld, chairman of the Joint Council and chairman of the Governor's Subcommittee on Health, were Mrs. Mildred McGowin, chairman of the Governor's Subcommittee on Nursing Homes; Dr. Ira L. Myers, State Department of Health; Dr. Polly Ayers, Alabama Dental Association; Miss Eleanor Poe, Alabama Dietetic Association; Miss Catherine Corley, Alabama Nurses' Association; Mr. J. Cecil Hamiter, Alabama Hospital Association; Mrs. Thelma M. Curn, Alabama Pharmaceutical Association; and Mr. C. E. Dunn, Alabama Nursing Home Association. Guests included Father Tom



Nunan and Sisters Alice and Rose Mary of the Little Sisters of the Poor, Mobile; Mr. Carl Cundiff, Selma; and Mr. James N. Suduth, director of the Chilton County Nursing Home.

In reporting on the work of the Subcommittee on Health, Dr. Kirschenfeld stated that the Subcommittee had conducted a random statewide survey of the health status and morbidity of the older population. The data gathered so far, he said, seems to indicate that the morbidity and disability among this age group are not overwhelming. Actually, the majority of this group feels that they are in pretty good health, he added. Rehabilitation and home care services in Alabama are almost non-existent, he said.

Another survey, according to Mrs. McGowin's report on the activities of the Subcommittee on Nursing Homes, is being made of the nursing homes of the state to determine if the medical and dental needs of their patients are being met. Results of this survey will be presented at the next meeting in April.

Dr. Kirschenfeld introduced Mrs. Thelma M. Coburn of the Alabama Pharmaceutical Association as a new member of the Joint Council. Mrs. Coburn stated that her organization had appointed a committee on aging but as yet they had not been activated. She asked the Council for suggestions on programs that could be carried out by her group. Dr. Kirschenfeld suggested that perhaps they could work out a program whereby samples of medicine could be given to the aged group. Dr. Kirschenfeld said that a sample survey of pharmacists as to the number of prescriptions filled for older people would be of value to the Council.

Mrs. Coburn informed the Council that at the last meeting of the Physicians-Pharmacists Relations Committee the pharmacists offered to give older persons a reduced price on drugs if the physicians would mark PP (poor patient) on their prescriptions. This plan is being worked out by the physicians and pharmacists and will be reported on shortly, she said.

## ESSAY CONTEST SUCCESSFUL

Ninety-one Alabama high school students entered the Association's essay contest this year, according to Dr. John Chenault, chairman of the contest.

Student-interest in the contest this year was greater than ever, as indicated by the fact that the committee received entries from 15 counties this year as compared to 4 counties last year.

Pike County had the largest number of entries.

The topics of this year's contest were "America's Health—Ours to Preserve" and "Medicine as a Career." Fifty-two students elected to write on the latter subject.

The winner of the essay contest will be presented a check for \$100.00 at the Annual Session this month and will read his (or her) paper to the membership.

## RURAL HEALTH COUNCIL

A meeting of the Rural Health Council was held recently in Sylacauga.

A community health survey of 255 families in 22 communities in Jackson County was conducted in January, according to Mrs. Clyde Peck, home demonstration agent.

The survey showed that 69 per cent of the families received their water supply from wells and that 26 per cent of them had been tested.

The survey revealed that 73 per cent of the toilet facilities in the county were of a type approved by the State Health Department, with septic tanks accounting for 67 per cent.

As for immunizations, 88 per cent of all children under 9 years of age had been immunized for whooping cough; 75 per cent under 18 years of age had received tetanus shots; 45 per cent of adults under 40 years of age had been given typhoid shots.

Nineteen per cent of the families reported that they did not have a family doctor.

A family insurance plan is carried by 59 per cent of the families, and 31 per cent have a sick and accident or medical policy. Only 7 per cent have health records.



## ORGANIZATION SECTION

Rats are a problem according to 78 per cent of the families. Sixty per cent of the families surveyed indicated that they would like a community rat eradication program.

Eighty-two per cent of the families reported that they did not know what poisonous materials are in insecticides used around the home.

Reporting on the Shelby County polio inoculation program, Dr. W. C. Browne stated that 13,000 polio shots had been given during the past eight months.

Dr. Nickerson announced that an organizational chart of the Council had been prepared and is in the process of being printed. He also stated that Dr. Julius M. Davis had been appointed to the Council by the Alabama Dental Association.

Dr. W. J. Donald of the State Health Department reported that he had recently attended a meeting of Auburn University Extension Division's State Rural Development Committee. This committee, he said, has a rural development program that is in operation in Chilton and Fayette counties. This committee works with rural people in the field of economics as we do in health, he said, and suggested that Dr. Nickerson contact the committee chairman, Dr. E. T. York, Jr. of Auburn University, to see if the two programs could be coordinated.

### NEW MEMBERS

The following physicians have joined the State Association through their respective county medical societies since the Roster was printed in May, 1959.

Andrews, George L., Ozark, Alabama '58  
Austin, Edward Hutto, Fairfield, Alabama '58  
Barnes, Zerney B., Jr., Selma, Emory '50  
Box, William A., Satsuma, Tulane '52  
Browning, James P., Mobile, Arkansas '55  
Butler, William G., Jr., Florence, Duke '53  
Carlisle, William E., Montgomery, Tulane '53  
Cirlot, Joseph S., Point Clear, St. Louis '30  
Cobb, Jephtha B., Mobile, Emory '58  
Collier, James C. P., Tuscaloosa, Alabama '58  
Cowser, Elsie Jean, Mobile, Alabama '54

Davis, Harold Q., Mobile, Louisville '52  
de Juan, Eugenio, Mobile, Emory '53  
Derivaux, Joseph H., Birmingham, Georgetown '51  
Dixon, Gloria Anne, Birmingham, Georgia '53  
Dismukes, Jackson B., Montgomery, Illinois '32  
Dumas, Harold, Clanton, Tennessee '58  
Edwards, Hartwell P., Birmingham, Duke '42  
Finley, Sara, Birmingham, Alabama '55  
Frederick, Ralph H., Red Bay, Tennessee '31  
Fridge, John C., Mobile, Tulane '51  
Friend, Louise Elaine, Montgomery, Duke '54  
Greene, Walter L., Jr., Selma, Bowman Gray '54  
Gravlee, Leland C., Jr., Birmingham, Alabama '55  
Henderson, Ernest A., Opelika, Oklahoma '38  
Hester, Keith, Mobile, Arkansas '50  
Hollingsworth, Betty B., Tuscaloosa, Arkansas '50  
Hughes, Hugh J., Birmingham, Pennsylvania '53  
Johnson, Abel L., Mobile, Arkansas '53  
Johnson, James C., Birmingham, Alabama '56  
Jones, James D. II, Birmingham, Alabama '57  
King, Virginia S., Birmingham, Alabama '57  
Kramer, Richard W., Mobile, Tulane '46  
Landers, Bluit L., Jr., Birmingham, Alabama '54  
Langstaff, Quintus A., Florence, Duke '55  
Lewis, Thomas K., Jr., Decatur, Emory '51  
Little, William F., Jr., Montgomery, Tulane '46  
McCallum, Charles A., Jr., Birmingham, Alabama '57  
McGee, Lawrence S., Jr., Mobile, Tulane '51  
McGehee, John McDuffie, Mobile, Jefferson '52  
McNeil, Jean, Birmingham, Pennsylvania Women '54  
Miller, D. Evelyn, Montgomery, Nebraska '28  
Moore, Ewing J., Jr., Pinson, Alabama '55  
Niehuss, Charles E., Tuscaloosa, Tennessee '37  
O'Neal, Joe W., Birmingham, Alabama '54  
Osband, Richard, Birmingham, Chicago '55  
Owings, William O., Brent, Tulane '58  
Parnell, Leighton C., Jr., Bessemer, Alabama '58  
Pritchett, Hugh W., Sr., Town Creek, Georgia '58  
Rathle, Henri A., Theodore, Paris '37  
Reich, Louis A., Irondale, Tulane '55  
Reynolds, Hugh, Mobile, Ireland '50  
Riley, Louis S., Jr., Birmingham, Baylor '58  
Roberts, Shaler S., Jr., Florence, Alabama '54  
Schermer, John W., Jr., Marion, Alabama '57  
Selikoff, Eli, Montgomery, Alabama '55  
Shelton, James L., Fairfield, Baylor '42  
Short, William Buford, Jr., Lafayette, Emory '58  
Smith, Lamar M. C., Jr., Birmingham, Tulane '52  
Sullivan, Melvin B., Jr., Birmingham, Tulane '49  
Wells, Buren E., Fairfield, Alabama '55  
Wiles, George W., Mobile, Tennessee '58  
Wright, C. Craig, Sheffield, Ohio State '53  
Yow, John S., Jr., Montgomery, Alabama '53  
Zumstein, Robert F., Ariton, Tennessee '58





## ASSOCIATION FORUM

### New Method Of Detecting Cancer Reported At Walter Reed

Technicians in the Bio-Chemical Virus Laboratory of the University of California are doing important research work on the relationship between virus and cancer. They, like thousands of other scientists, search for a cure to the disease . . . which is yet to be found.

Still important: concentrate on the early detection of cancer, even before the more obvious symptoms appear. This was strongly urged, at a meeting of the American Cancer Society, as the best way of fighting the disease. The reason for this recommendation is the mounting evidence that many forms of cancer can be stopped if spotted early enough. One-third of those who get cancer are being saved today, and with present knowledge and detection methods the potential is 50 per cent.

Supporting this theory, along with other doctors who took part in the meeting, Captain Robert B. Brown, chief of surgery at the Naval Medical Center in Bethesda, Maryland, discussed cases of 81 sailors and marines treated for lung cancer between 1950 and 1957. A sizable percentage of these men are alive today only because lesions were detected in the very early stages.

Cancer of the digestive tract can also be checked in this manner. Drs. Donald B. Shahon and Owen H. Wangensteen of the University of Minnesota Hospitals have extensive records showing that the chance for cure is 2½-to-4 times greater for patients whose treatment begins before the appearance of obvious symptoms.

And Dr. Edward F. Lewison, of the Johns Hopkins University School of Medicine, reported: "Breast cancer is more readily curable if diagnosed early."

Although not discussed at the ACS meeting, a quicker method of cancer detection is reported from Washington. Captain Le Roy H. Dart, pathologist of the Walter Reed Army Hospital, and his assistant, Master Sergeant Thomas R. Turner, found that a fluorescent orange dye, in smears taken from suspected cancer victims, can be used to identify malignant cells in far less time than present methods. The dye causes nucleic acids present in body cells to glow with a green and red light; cancer cells contain increased amounts of these acids, and under the microscope their fluorescence is extremely bright. More than 5,000 microscopic specimens stained with the dye were examined twice as rapidly and just as accurately as with the technique now used in most hospitals.

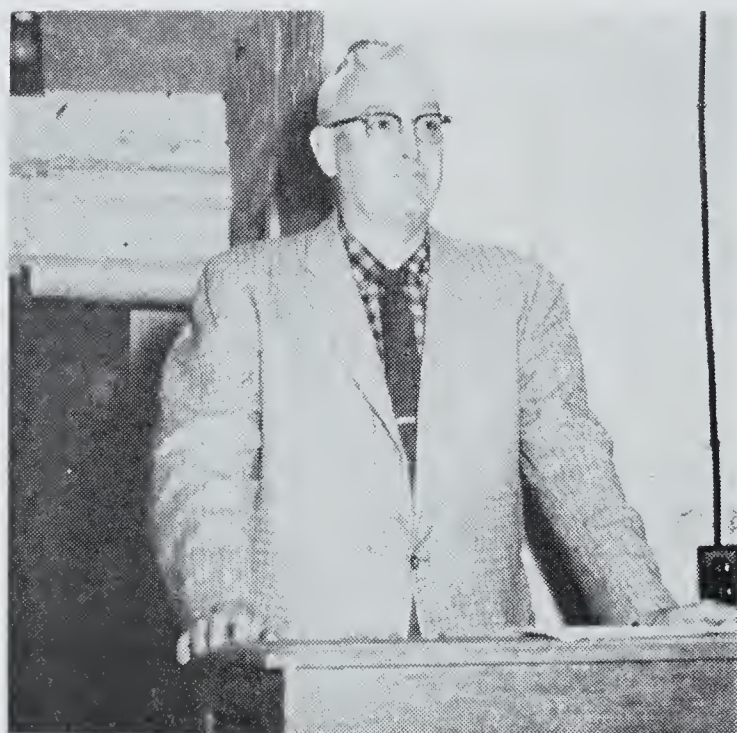




**CAN YOU INCREASE  
ATTENDANCE AT COUNTY  
SOCIETY MEETINGS?**

The problem of how to create interest in . . . attendance at . . . regular monthly meetings is one with which county medical societies are constantly faced. The Covington County Medical Society has met this problem with some successful results. Depicted here is Covington's formula for "how to do it."

1. Select an attractive meeting place . . . not one that has the charm and attraction of a morgue.
2. Stage dinner meetings.
3. Allow time for fellowship.
4. Streamline business sessions. Plan efficiently in advance.
5. Select scientific topics of interest to the majority. Vary programs as much as possible and utilize available films.



J. M. A. ALABAMA



## M. D. Press Relations

It is your ethical duty to furnish the press with prompt and accurate information . . . for both professions have tremendous responsibilities to the public . . . for an uninformed public can be dangerous to the freedom of both professions.

Cooperation and mutual understanding between physicians and the press are more important today than ever before due to an increasing public interest in medical science news.

While medical public relations have improved tremendously during the past few years, there still is an occasional encounter between doctors and newsmen resulting in disappointment or annoyance on one side or both. Usually these encounters stem from a misunderstanding of each other's problems and obligations.

Actually, the press and the medical profession have a lot in common. Both have tremendous responsibilities to the public. Newspapers are concerned with the ills of society, just as the doctor is concerned with the ailments of the individual. Freedom of the press and freedom of choice—the basic right of an individual to choose his own doctor—are among America's most treasured traditions.

To fulfill their responsibilities to the public, physicians and journalists must have an opportunity to meet and talk, to promote understanding of each other's problems, to generate respect each for the other, and to recognize the rights of individuals, of writers, of physicians, and of the public.

It is to the advantage of physicians, hospitals, and the press that the public be provided with prompt and accurate information within the bounds of good taste.

Since the press is responsible for what it publishes, it must be the sole judge of what shall be published. Where the source of news is a physician, the press should assume the obligation to consider the life and health of patients and to recognize the ethics by which doctors are bound.

The press cannot carry out its traditional responsibility of informing the public in the area of medical and patient news without the cooperation of the medical society and individual doctors. The inevitable penalty of silence by physicians is public ignorance, misunderstanding, and fear. In a democracy, public ignorance, misunderstanding, and fear can be dangerous to professional freedom.

The facts about medicine and the health of the people have to be told by those who know the facts. If a reporter cannot get the facts from the doctor, he will go elsewhere, and the chances of the public getting an accurate story may be lost.

For years doctors feared that releasing medical news to the press would result in condemnation by their colleagues for unethical practices. The code of ethics now stresses that it is the responsibility of the physician and the medical society to see that accurate medical information reaches the public.

Many communities have accomplished good relations through codes of cooperation which set forth workable policies on medical news which satisfy both sides.

Such codes usually set up a system of of-



ficial spokesmen for each county medical society. These doctors make themselves available to the press and may be quoted in matters of public interest for purpose of authenticating information. And the code usually states specifically that this action by the spokesmen shall not be considered by their colleagues as a breach of the time-honored practice of physicians to avoid personal

publicity, since it is done in the best interests of the public and the profession.

But even where the codes exist both the medical profession and the press should be able to accept constructive criticism. Neither is perfect. And sincerely expressed criticism often can be helpful to both.

Reprinted from A.M.A. News.

## Getting the Most Out Of Your Life Insurance Dollars

By C. C. Nash

New York, New York

The dollars that go into life insurance premiums are of vital importance for two reasons: First, they represent a sizable block out of your current budget, year after year, and you want them to be used at maximum effectiveness; second, they are buying a large part of your future security, both for yourself and your family.

Thus you want to make certain from the very beginning that those life insurance dollars are most economically and most effectively invested. And quite obviously this calls for carefully planned purchase and maintenance of your policies.

A generation ago, the more common practice was to buy a "chunk" of life insurance; and if it totaled \$10,000 or \$15,000, that seemed to be substantial and adequate. Since then, however, several changes have taken place in family financial planning. It has been discovered that future needs can be quite clearly predicted and these needs can be met quite effectively through planning. The life insurance policy is now regarded as a benefit package, not just a sum of money. It may mean a life income for one or for several—or a fixed income for a period of years—or

any one of a long list of different plans.

This process of arranging family security, which has come to be known as "estate planning," is of particular interest to medical students, as they are moving into the profession which is making the greatest use of such planning.

Estate planning is much more comprehensive than it was a generation ago. Today, it includes anything in the area of family financial security, provided it is set up as a planned program for future security. It may involve a total "estate" of \$5,000 or \$10,000—or it may involve hundreds of thousands or even millions of dollars worth of value. Whatever the amount, it should be established with a full awareness of most effective future use and most economical present cost.

A large proportion of doctors is going to be in the upper small percentage of large "estate" owners. In fact, they are going to have sizable estates very soon after setting up practice.

If, as has been said, the typical doctor is at full lifetime income level within 10 years of leaving school, that means he will by then probably have an estate of better than av-



erage proportions—probably a valuable office-home in the \$25,000 to \$50,000 category, possibly between \$50,000 and \$100,000 of life insurance, very likely, a sizable portfolio of other investments, some net worth in his practice, a fair aggregate of personal property. In sum total, this is very apt to add up to \$100,000 or \$125,000 as a gross estate, with \$5,000 to \$10,000 being added yearly. And clearly that is an amount which, as anyone can realize, should be well planned if it is to be maintained at full value.

This “estate” package, however, rarely comes into existence at a single moment. It is something built up over the years, beginning with student days and stepping up with special emphasis at the times of major change in responsibility—marriage, parenthood, property ownership, debt involvement, child education, income advancement, increased tax potential, and, eventually, retirement. Quite evidently, each unit added to the estate should be added at maximum effectiveness and economy, if the eventual estate is to attain the best possible value.

This raises the question, “When do you start to plan your estate?” The answer is obvious, “When you make your first savings or buy your first life insurance policy.”

In this beginning stage, of course, it is not essential to call upon the “team” services you will eventually need to build and maintain your estate—lawyer, banker, accountant, and life underwriter. But it is essential that each and every item acquired be purchased with a view to fitting most efficiently into your future more ample plan.

The medical student’s policy bought through his association, for instance, is planned as a valuable part of the future doctor’s program. It is a low-cost term insurance policy which converts to a permanent policy at the post-training point of increased responsibility. It carries minimum cost during the days of student expense, a period that possibly includes debt involvement and, in many cases, even the responsibilities that come with marriage. But it is not just temporary low-

cost protection; it is a guarantee of continuance on a permanent basis later.

Likewise, every other dollar expended on security and protection over student years, internship, and residency, should be placed with an eye to future use in the total plan.

Every student should try to capture a general idea, at least, of some of these future needs and uses of savings, so that he will have them as background for current acquisitions and, what is equally important, know when to amplify the plan.

Some students, especially those who are already married and have started their lifetime responsibilities, have their life insurance agent draw up a two or three stage plan, to set as a goal for future adoption as income permits, and then check off the beginning items as they acquire them.

Much more of this eventual program can be put into effect at once than many realize, through the aid of term insurance plans and special coverage insurance plans. Many students thus have an “estate” of \$20,000 or \$25,000 or even more—something their fathers would scarcely have considered possible. Many interns or residents have “estates” of \$30,000 to \$40,000 through these plans.

#### Fundamentals In Insurance Buying

Perhaps it would be of interest to quickly run through some of the fundamentals you are going to want to know eventually, in shaping your “planned estate.”

First, of course, would be some provisions for paying off all outstanding bills and debts. This would include college loans, household bills, and unpaid taxes. This item will vary from year to year and the program should be adjusted accordingly. The college loan, if you have one, would reduce rapidly, but as it is reduced, you would undoubtedly have increasing needs in other channels to absorb what is relieved by loan repayment.

Next, if you own a home, as you very likely will as soon as you set up practice, you will want to provide for payment of the mortgage in case of death unless, by pre-arrangement,



the family has decided it does not want to continue in the home. In the latter case, you would probably want to provide for interest, amortization and taxes for a period sufficient to allow leisurely sale of the property. Otherwise a loss might have to be taken.

Closely tied to this, and actually a "first" in the plan, would be provision for temporary continuance of family income at full level, to permit adjustment to the new program—possibly a one or two-year income extension.

Continuance of some family income into the longer future would be wanted, the amount depending on family size, standard of living and available resources. This is an item that can be determined only by the individuals—and it is one that will undoubtedly fluctuate materially over the years. It may be one thing if there are no children and quite another, if there are children. In the latter case it would very likely call for sufficient income to keep the family together, with the mother free to care for them, until they are all through the planned schooling. Even this latter item will vary widely, according to family status and your degree of advancement in your whole program.

If college is a determined objective for the children, (and a fair percentage of doctors' children follow in the father's path, with added school requirements) special provision for these college funds will be made.

Income for the wife, after the children are through school, possibly for her remaining lifetime, is a further consideration. Unless you go into industrial medicine, under present procedures, you are going to be her only source of life income. She will not have Social Security or pension benefits unless you are under some organizational payroll.

Your own retirement income is an essential item to consider as you amplify your plan. A high percentage of doctors are living and practicing in their 70s, but at the same time, a high percentage is forced into retirement by health—and even more may want to retire even though in good health. Not long ago one medical school class, all past 65, reported

7 per cent disabled. They badly needed a retirement income.

A need of growing proportions, as your estate grows, will be provision for meeting taxes and other costs involved in settling an estate. The shrinkage in estates from taxes, debts, legal, and administrative expenses will more than likely be at least 20 per cent and may run as high as 50 per cent unless careful planning is done.

A good many of these items may sound remote in the minds of some medical students or practicing physicians. But it should be remembered that these items are going to demand your attention in the not-too-far distant future, and how you plan for them will have much to do with their future value and your eventual economy.

For instance, it is important, when buying each new life insurance policy, that you consider not only the immediate use, the current need for which you are buying, but also its next-step use, as you amplify your plan. By way of illustration, your second policy, the one bought next after your student policy, should be purchased with a thought to a probable family protection need in the near future. If you are not yet married, you might think this was a time to start building for the eventual retirement with a "Retirement Income Policy." But you should consider the likelihood that you will be married soon and such a policy is an expensive coverage for family protection. Much more for your money can be set up at this point through a Straight Life Policy, to which a special Family Income rider can be added as soon as the family need arises.

Similarly, through your step-up into full practice and full family responsibility you should work closely with your life insurance agent, to make certain your insurance dollars are most effectively directed. If you are moving into residency, for instance, married and soon to be a father, a payment of about 3 per cent of income could buy a Family Income Policy to provide, in case of death, about \$80 monthly, until 20 years from now, with \$8,000 of cash payment at the end of the



period—compared with a single payment of \$3,500 to \$4,500 under a Retirement Income Policy. Of course, at age 65, the Family Income Policy would have only about \$4,400 cash value in it, while the Retirement Income Policy would have from \$6,500 to \$7,500 in it. But the Family Income Policy is the economical plan for family needs.

#### **Mortgage Insurance**

Another example of economy buying can often be found in connection with mortgage life insurance if you own a home. If this is a stated-term mortgage, as it usually is, the most inexpensive insurance to guarantee mortgage repayment in full at death would be a term policy for the number of years of the mortgage term, reducing in amount as the mortgage does. Often this is done at maximum economy by having it as a decreasing term rider on a permanent policy designated for some other family need. This could be provided at an annual premium at age 30 for a 15-year \$15,000 mortgage rider of \$60 (less than  $\frac{1}{2}$  of 1 per cent of the face of the mortgage) whereas a straight life policy for the purpose would carry an annual premium of about \$275.

In any planning, an important consideration is always the conversion of any term insurance that can be converted just as soon as possible—as soon as you feel the increased premium would be possible of absorption into your budget. (The decreasing term mortgage rider would not be convertible, but your student policy and most other starting term plans would be.) This will have an important bearing on your future premium outlay. How important may be illustrated by the Family Income plan bought at age 30. The policy mentioned, providing \$80 monthly income and \$8,000 later cash, would cost in the neighborhood of \$150 yearly until age 48 and then about \$120 yearly. If you waited until age 40 to buy this same policy, the yearly cost would be nearly \$250 until age 58 and then about \$175—or \$55 more per year than the earlier purchased policy. Just the difference in cost on the permanent part of the policy would represent, at average life ex-

pectancy, a total cost difference of some \$2,000.

This is a clear illustration of how important it is to buy all of your insurance as early in life as you can. The cost differential is large and accelerates as the age advances. If the doctor's total insurance is one day going to be in excess of \$100,000, this points to a saving of several thousands annually through early purchase—not to mention the value of full protection established at the earliest possible time.

Other economies can be effected in the early planning. For instance, annual premiums cost less than quarterly or monthly. You can save some money by getting as much as possible of your insurance on an annual premium basis. Often, if you want to spread the payments over the year and still have your insurance on the annual premium basis, you can schedule the anniversary dates of various policies to fall evenly over the year. Thus four \$5,000 policies could give the equivalent of a quarterly premium on a \$20,000 policy. Twelve \$10,000 policies (if your eventual plan is to be \$120,000) could give the equivalent of a monthly premium on the total package—at the annual rate.

It is also helpful to watch your purchases today as to unit amount, as many companies offer premium reduction as policy size steps up. The sizes qualifying vary, sometimes \$2,500, sometimes \$5,000 or \$10,000. It might be that a slight increase in policy size would give a premium reduction of considerable value.

#### **Loan Repayment**

It would be advisable at all times to keep a constant check on your policies and make certain that unnecessary additional costs are not included. For instance, you may have made a policy loan at some time and because of the liberal nature of this loan requiring no repayment prior to death, you may be carrying an interest charge as a part of the annual premium billing. Even though you do not have to repay this loan, it may be desirable to do so as soon as possible—and not



only to eliminate the interest charge but also to eliminate this item which stands as a reduction in your planned protection. The loan has to be paid in the event of death and will be deducted from the payment for the designated need.

One of the little details that can loom as important, for those married, is the question of how benefits will be paid in the event both husband and wife die as the result of the same accident—something that is occurring with increasing frequency today with motor vehicle, aviation, and other travel so commonly a family business. A recent check showed a sizable percentage of the highway toll on a single holiday week-end represented these husband-wife deaths. Many policies now provide for this, but those that do not should have a “common disaster” clause written in, to make certain the policy proceeds will go directly and most economically to those for whom they are intended. This clause costs nothing, but it may save your eventual beneficiaries much cost and confusion.

For anyone who has started to accumulate any estate values, a will is a “must.” As the estate grows, it becomes more and more necessary. This, of course, is not in the province of the life insurance agent, but he knows that anyone with any disposable wealth should have one. In fact, in many of the more complicated estate plans, the agent is going to work closely with the lawyer-banker-accountant team in linking together the will and the whole estate program. Many life insurance trusts are set up today with what is called a “pour-over will,” directing all or part of an estate to be added to an existing trust fund, the terms of which were not reiterated in the will itself. The first will should be established early, however, and every time the estate plans change, the will should be checked to see if it, too, needs changing.

Mobility of family is something else to watch closely as your plans advance. While the doctor, once settled in practice, is not apt to be as nomadic as many others during

his practicing years, he will probably move about in his preparatory years and then possibly again in later life. Any change of residence to another state calls for careful recheck of your whole program, for many items can change. Tax provisions differ from state to state. Even the will, properly drawn in one state, may require altering in another. The whole structure of the estate may be changed.

As the plan advances, there will be more and more opportunities for economy through differing arrangement of policy provisions and inter-related units of the plan. Proper use of the marital deduction may make a difference of as much as \$60,000 in a \$200,000 estate—which would be a normal total estate of a well-established doctor, including an average \$100,000 of life insurance. Gift tax uses can do much to rearrange portions of an estate. Some economies can be effected today, under current regulations, by arranging to transfer all equities in certain policies to the wife, thus eliminating the proceeds of those policies from estate tax. But these and the many other considerations that relate to larger estates are matters that call for the estate planning “team.” There are no general rules for such matters and each case has to be custom-built. The student, intern, and resident rarely needs to consider such matters—but it is well to know what this is all about.

There is one other element in the plan that should be thought of early, however, and that is the planning for retirement. This will not be included in specific life insurance plans until the program is well under way, but it is well to know as you move along that every policy you have may be fitting into this retirement plan eventually. Comes the day of possible retirement, if your life-time protection needs have largely outrun their urgency, you may want to use the cash values of many of your policies to help establish an annuity for yourself or a joint and survivor annuity for yourself and wife. Most straight life policies carry an age 65 cash value of from \$550 to \$600 per \$1,000 face amount of



policy. Thus \$50,000 worth of life insurance might have a cash value of nearly \$30,000—which would be enough to provide a straight annuity income for you of perhaps \$200 monthly or a joint and survivor annuity of about \$130 monthly.

#### Insurance For Investment Purposes

This, of course, raises the whole question of using life insurance for such investment purposes, as contrasted with securities or other investments. It is well for even the beginner in estate building to keep in mind that, because of tax differences, the accumulation of funds through life insurance turns out to have a good “yield rate.” A recent analysis showed that a 30-year-old person in the \$25,000 taxable income category would, if single, have to earn 4.73 per cent on any other investment to provide the same cash at 65 that his life policy will produce—if married, the other investment would have to earn 3.40 per cent. If he is in the \$50,000 income group, the earning equivalent would be 7.76 per cent if single; 4.73 per cent if married. In other words, he not only has a vital family security program in his life insurance, but also a good yielding investment for his retirement needs.

Of course, as the doctor's plans advance to the point of developing a complete retirement program, he will probably define clearly the portions of his insurance to be held for post-retirement protection and the portions to be used towards retirement income—possibly add some Retirement Income policies to round out the plan with a minimum of investment complications.

At every stage in the program, two things are essential to maintain full estate value at all times: First, a constant integration of all elements in his estate, insurance, investments, real estate, and all other items of value; and, second, a repeated check and recheck, to make certain the estate is at all times current. This recheck will be made on every occasion of important change in either responsibilities, needs, or resources—and at any rate probably every year or at least every

second year. This should be done regularly, whether anything seems changed or not, for changes often come about without awareness, changes that can affect estate values or program costs.

This is the over-all picture that should be kept in mind by everyone starting out on a family financial security program. It is largely a matter of subconscious awareness at the beginning. But it will be of genuine value one day and gradually be called into full effect as the program grows. The medical student, already started on his program through his student policy, will profit by storing such a picture in his mind to guide his growing program over the years.

Reprinted from *The New Physician*.

## Cancer Society Launches Drive This Month

The Alabama Division of the American Cancer Society is conducting its annual fund raising campaign this month, according to a recent announcement by Dr. W. D. Anderson of Tuscaloosa.

The president of the Alabama Division said that during any fund raising campaign, the question of how contributions are disbursed is one asked by many fellow physicians.

Sixty per cent of the funds collected by Alabama volunteer workers will be allocated to the local division for research, education and service programs, he explained. Twenty-five per cent will go for national research programs, part of which will be returned to Alabama through research grants.

Since 1945, the American Cancer Society has spent more than a million dollars on research in the state, including studies at the Medical College of Alabama, Southern Research Institute in Birmingham, and Auburn University. Findings of value have been realized from these studies, he said.

In the field of scientific research, Dr. Anderson said great progress has been made in



the direction of controlling cancer. In 1945, the American Cancer Society began an all-out effort in this field, and the work has been fruitful. As a result of scientific findings in recent years, many more cancer victims are being saved today than ever before. Through the known techniques of using X-Ray, radium and surgery, most early cancer is curable; and even in those cases for which no cure is known, science has found ways of prolonging life.

In the field of education, Dr. Anderson pointed out that the American Cancer Society recognizes first that ignorance is cancer's most powerful ally. Education is its greatest enemy. Out of every three persons who die of cancer, at least one could be saved by present medical knowledge. He or she dies needlessly and could be saved by early diagnosis and treatment.

The American Cancer Society strives continually to help doctors keep abreast of new developments through medical seminars and professional literature.

The public education fight against cancer is waged through newspapers, radio and television publicity, films, booklets, posters and other means.

Another aspect of the American Cancer Society's program, that of service, is designed to help medically indigent persons who are already afflicted by the disease.

Through its service program, the Society seeks to help these patients to the extent permitted by its financial resources. Actually, he said, the treatment of medically indigent cancer patients in Alabama is under the supervision of the State Health Department as prescribed by law. The law, Dr. Anderson explained, does not include transportation cost; therefore, the Alabama Division of the Society defrays transportation cost for indigent patients to state-supported clinics when no other means are available.

The Alabama Division also supplies bandages and dressings and palliative medicines to medically indigent patients. Requests for assistance of any type provided by the Ala-

bama Division should be made by a physician. Some questions and answers on the procedure for obtaining aid for these patients are:

Who is eligible for cancer treatment without charge?

Only cancer patients who are medically indigent. A patient must be unable to defray the cost of treatment while paying for necessities of life.

Who determines whether a patient is medically indigent?

This is done by the County Department of Pensions and Security in the patient's county.

What facilities are available for treating indigent patients?

Medically indigent cancer patients can receive treatment at any one of the six clinics in the state.

What is the procedure for obtaining treatment at a clinic?

1. The patient advises his doctor that he is unable to pay for the required treatment.

2. The doctor fills out an application for aid. Forms are available from county health departments.

3. The forms should be forwarded to the Department of Pensions and Security in the county where the patient resides.

4. The Department of Pensions and Security investigates the patient's claim of medical indigency. If the claim is sustained, the patient's application for aid is sent to the local county health department and is forwarded to the State Health Department for processing by the cancer division.

5. If approved for treatment, the patient is notified and instructed as to when and where to report.

Who pays for the patient's transportation to clinic?

The patient is expected to provide his own transportation if possible. If he is unable to do so, the Alabama Division will pay the equivalent of the patient's bus fare to and from the clinic as long as treatment is prescribed by the clinic. Applications for trans-



portation aid should be submitted to the County Education Chairman of the ACS in the patient's county.

Is help given to incurable patients?

Medical decisions regarding a patient's treatment are made only by the patient's physician and state clinic staff members. If palliative or pain-relieving drugs are prescribed for indigent patients, ACS will pay up to \$1.00 a day for such medicine. Applications for palliative medicine should be made by the physician on an official ACS form. These forms are obtainable from the state division office, 2029 Warrior Road, Birmingham 3, Alabama.

## Recreation Spending Tops Health

Americans are spending twice as much money for recreation, alcoholic beverages and tobacco as they are for medical care, the Health Insurance Institute recently announced. Two out of every 18 dollars the public spends for its personal needs goes for recreation, alcohol or tobacco compared to an expenditure for medical care of one out of every 18 dollars, said the Institute.

According to data based on 1958 figures and released by the U. S. Department of Commerce, Americans spent \$293 billion on their personal needs.

Some \$17 billion of this sum, or 5.8 per cent, was spent for recreation while \$9.2 billion (3.1 per cent) went for alcohol and \$6.3 billion (2.1 per cent) was used to purchase tobacco products, for a total of \$32.5 billion, or 11 per cent of total personal consumption expenditures.

In comparison, \$16.4 billion (5.6 per cent) was spent on medical care, stated the Institute. Other public expenditures in 1958 included \$67 billion for food, \$38 billion for housing, nearly \$34 billion for transportation, \$32 billion for clothing, accessories and jewelry, almost \$4 billion for religious and welfare

activities, and \$3.4 billion for education and research.

The distribution of each dollar spent for medical care changed sharply in the period from 1938 to 1958, said the Institute.

In 1958, physicians and dentists received a smaller share of the medical care dollar than they did in 1938; while hospitals, medicines and appliances received a larger share.

### Doctors Drop

From each dollar of the \$2.7 billion spent for medical care in 1938, physicians received 30 cents; but by 1958 doctors were getting 26 cents out of each dollar.

An even sharper drop in distribution of the medical care dollar was experienced by dentists, whose share of 15 cents on the dollar was reduced to 10 cents.

The slack was taken up by hospitals, medicines and appliances, declared the Institute. Twenty-two cents out of every medical care dollar spent in 1938 was for hospital services; but by 1958, this slice of the dollar was up to 31 cents. Hospitals attribute this rise to the expansion of hospital services and their greater utilization which has increased the number and variety of skilled personnel required.

The rise was less dramatic in medicines and appliances, which climbed from 26 cents to 27 cents.

The amount spent for all other medical needs, which include other professional services and nursing home care, dropped from seven cents to six cents.

ANNUAL SESSION  
OF THE ASSOCIATION

ADMIRAL SEMMES HOTEL

MOBILE

APRIL 21, 22, 23



## Blue Cross Has Record Year

Blue Cross-Blue Shield of Alabama's health benefit payments in 1959 amounted to \$20,619,561, E. H. Singleton reported at a recent meeting of the board of trustees in Birmingham.

"This total payment for hospital and doctor care needed by our members in 1959 is the largest amount ever paid by the Alabama Plan in a single year," he said.

The payment, over \$2 million higher than the 1958 figure, was attributed to several factors: 56% of Alabama's 750,000 Blue Cross members are now protected by the newer, more comprehensive coverage introduced by the organization over the past year or so; Alabama hospital costs of furnishing service rose an average of 8% in 1959; and increased public confidence in the use of hospital and physician services for its health needs.

This brings to \$130.6 million the benefits furnished by the Alabama organization since it began operations in 1936. The high benefit figure was coupled with a new low in the percentage of dues income required for operating expense. Only 6.3% was used for operation during 1959.

Clyde L. Sibley, administrator of Birmingham Baptist Hospitals, was elected to a new position as chairman of the board of directors. Mr. Sibley has served on the board of non-profit Blue Cross-Blue Shield of Alabama for the past twenty-four years, and as presi-

dent since 1958. He recounted the early days of the organization as it was first created by a special enabling act of the State Legislature, largely through the efforts of the Alabama Hospital Association and other community-spirited Alabamians. Growth has been rapid, as Alabama Blue Cross membership today exceeds 750,000 persons. Through 1959, over 1,152,000 hospital claims and 1,261,000 medical-surgical services have been paid for health care to Alabamians.

Four new directors were elected at the annual meeting. They are R. C. Barnes, administrator of Eliza Coffee Memorial Hospital, Florence; Wood S. Herren, M. D., Birmingham; William B. McGehee, administrator of Stabler Hospital, Greenville; and Thomas W. Wright, M. D., Huntsville.

Re-elected for a one-year term were James H. Couey, Jr.; J. Fred Shackelford; Harvey Terrell; Dr. Leslie L. Wright, Birmingham; Edward S. Perkins, Anniston; E. B. Fuller, Suttle.

Other members of the board of directors are E. C. Bramlett, James W. Donald, M. D., Mobile; J. C. Hamiter, Gadsden; D. O. McClusky, Tuscaloosa; and Henry G. Hodo, Jr., M. D., Fayette. The eighteen directors of Blue Cross-Blue Shield of Alabama represent the general public, the Alabama Hospital Association and the Medical Association of the State of Alabama in a policy-making capacity. All directors serve without pay.





# around the state



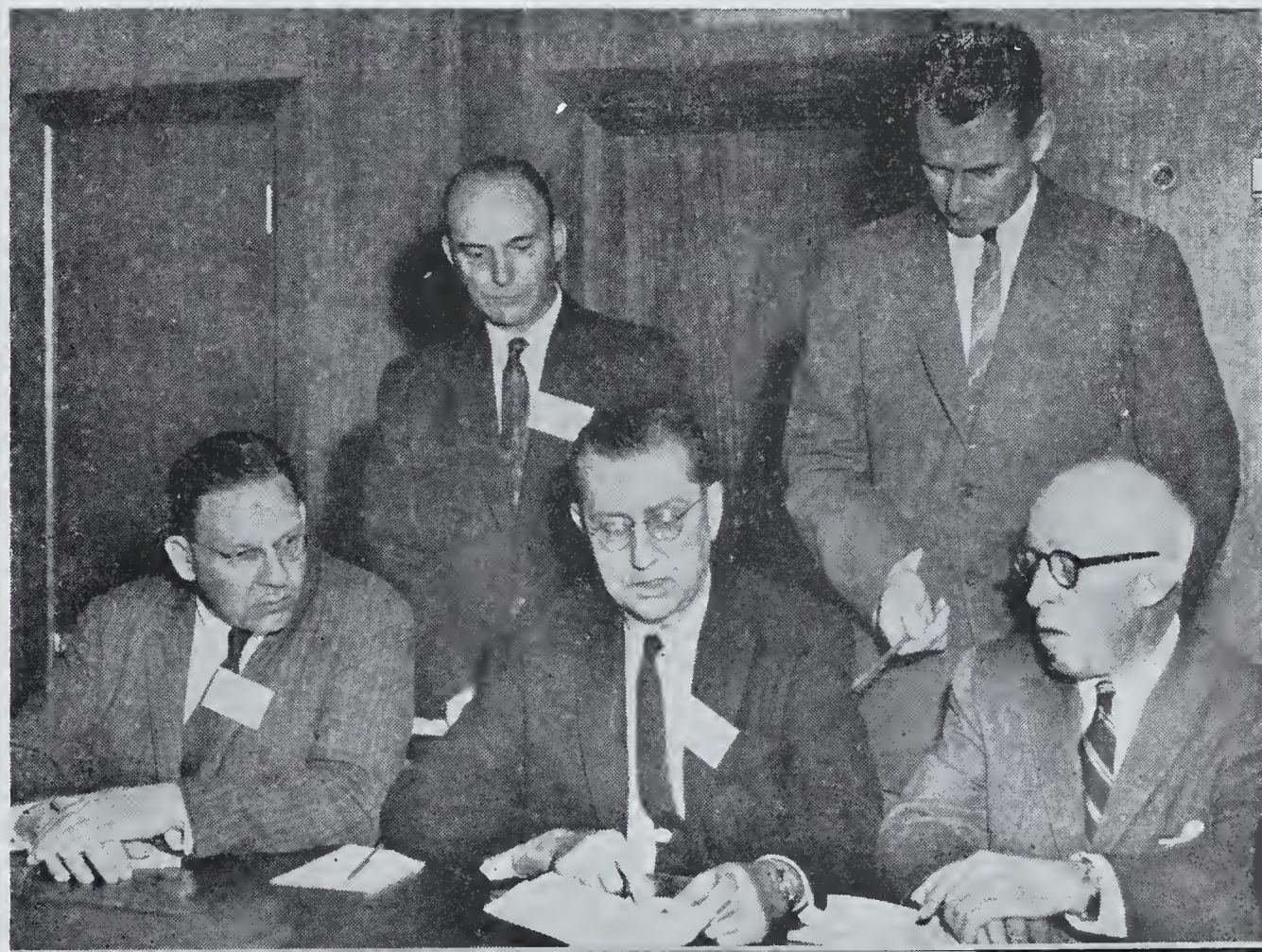
**POINT CLEAR**—Looking over the program of the ninth annual scientific meeting of the Alabama Chapter, American College of Surgeons, last month were (left to right) Dr. Paul Hawley of Chicago, Director of the American College, and Dr. John Donald of Mobile, chairman of arrangements for the meeting.



**NEW OFFICERS**—The Alabama Chapter of the American College of Surgeons elected (above, left to right) Dr. John Donald, Mobile, councilman; Dr. John Davis, Montgomery, councilman; Dr. Emmett Frazer, Mobile, president; Dr. James Collier, Tuscaloosa, president-elect and Dr. T. Brannon Hubbard, Jr., secretary-treasurer.



**PRESIDENT**—Dr. A. I. Chenoweth of Birmingham is pictured above chatting informally with guest speaker Dr. William F. Nickel, Jr., associate professor of clinical surgery, Cornell University.



**HIGHWAY SAFETY**—Participating in a panel discussion on what the surgeon can do to help control the highway carnage in America were (left to right) Dr. David G. Vesely, and Dr. Champ Lyons, Medical College of Alabama; Dr. Francis Murphey, University of Tennessee Medical School. Standing are Dr. John Davis of Montgomery (left) and Dr. William F. Nickel, Jr., Cornell University.





**MONTGOMERY TRIO**—Three Montgomery physicians were elected officers of the Alabama Academy of Ophthalmology and Otolaryngology. They are (left to right) Dr. John Allen Jones, president; Dr. Paul Mertins, vice president; Dr. Karl Benkwith, secretary-treasurer.



**EDDY GILMORE**—Veteran Associated Press foreign correspondent and winner of the 1947 Pulitzer Prize, discussed the differences between Russia and Red China at a joint banquet of the surgeons and ophthalmologists.



**AGING**—Two of the fourteen subcommittees of the Governor's Advisory Committee on Aging met with the Joint Council To Improve The Health of the Aged recently at the Chilton County Nursing Home in Clanton.

## ANNUAL

## SESSION

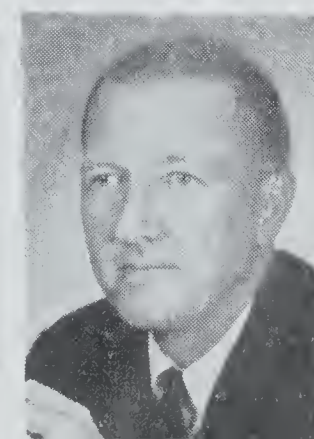
## SPEAKERS



Seventeen outstanding physicians will speak at the 99th annual session of the Medical Association of the State of Alabama. Pictured on the next page are (top left group) Dr. John E. Moss, internist, Mobile; Dr. Frank H. Krusen, chairman of American Medical Association's Committee on Rehabilitation; Dr. Alvin B. Hayles, professor of pediatrics, Mayo Clinic; Dr. Joe Vincent Meigs, clinical professor of gynecology, Harvard Medical School; Dr. Frank Kay, psychiatrist, Birmingham; (top right trio) Dr. F. J. L. Blassingame, executive vice president, American Medical Association; Dr. Garber Galbraith, surgeon, Birmingham; Dr. T. Brannon Hubbard, Jr., surgeon, Montgomery; (middle group) Dr. Robert C. Berson, internist, Birmingham; Dr. Neal Owens, professor of clinical surgery, Tulane University School of Medicine; Dr. Orville W. Clayton, surgeon, Birmingham; Dr. Champ Lyons, surgeon, Birmingham; Dr. David S. Carroll, associate professor of radiology, University of Tennessee College of Medicine; (lower left group) Dr. W. Nicholson Jones, obstetrician-gynecologist, Birmingham; Dr. Robert B. Greenblatt, professor of endocrinology, Medical College of Georgia; Dr. Earl B. Wert, pathologist, Mobile and Dr. Walter B. Frommeyer, Jr., internist, Birmingham.



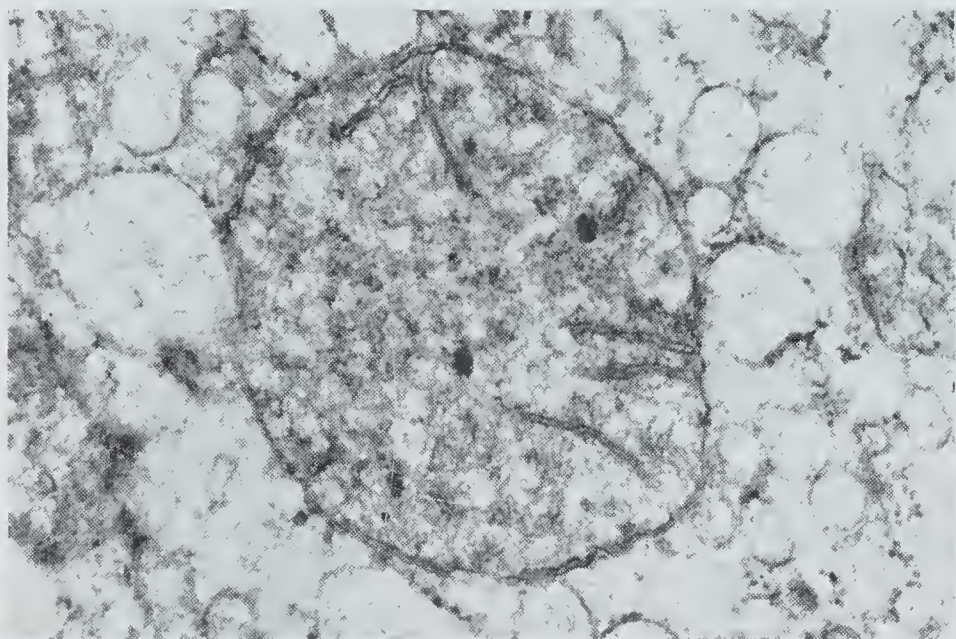
ANNUAL  
SESSION  
SPEAKERS







# MEDICAL CENTER NEWS

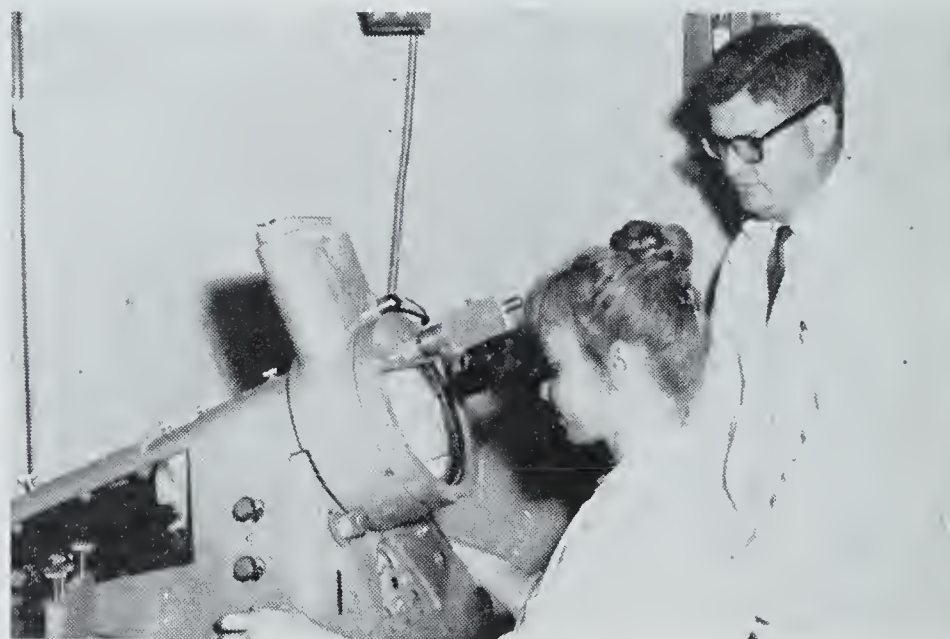


**INTRACELLULAR STRUCTURE**—This is a mitochondria from a liver cell, as seen through the electron microscope. Mitochondria—cytoplasmic structures which contain the enzymes concerned with the release of energy for cell function—can be seen only as tiny dots under a light microscope.

One of the important tools which scientists at the Medical Center are using in their research work is the electron microscope—an achievement of modern technology which makes visible smaller units of matter than the human eye has ever before been able to observe directly.

This instrument was installed in 1954 under a National Institutes of Health grant to assist Dr. J. F. A. McManus, professor of pathology and chairman of the department, in kidney studies which he is directing. In addition to work on the kidney, our electron microscope has been used in studies of skin, nerve fibers in the parasympathetic system, developing teeth, cell fractions, pituitary cytology, and hepatitis.

Now under the direction of Dr. M. W. Hartley of the departments of anatomy and pathology, the fifth-floor (Basic Science Building) laboratory is equipped with a new ultramicrotome, two other special micro-



**THE ELECTRON SCOPE**—This tremendously powerful “eye” allows scientists here to see and photograph the internal structure of cells. The electron microscope, being adjusted by Miss Charlotte Bebb as Dr. Marshall W. Hartley looks on, can even make visible some of the larger single molecules.

tomes and other equipment required in the preparation of specimens for electron microscopy as well as the \$23,000 Philips 100 electron microscope with a front-end camera. There is also a dark-room complete with all the apparatus needed to make good prints of negatives taken by the scope.

Because of natural properties of the streams of electrons which it uses to make visible the specimen being examined, this microscope can achieve a much higher resolution than that obtainable with even the best light microscope. The limit of resolution—the minimum distance between two points at which the points may be seen as separate—determines how much detail in a specimen may be seen once it has been magnified enough so that it becomes visible to the human eye. This important characteristic depends upon wave length—the shorter the wave length of the illuminating source, the greater the resolution achieved. Streams of



electrons have a shorter wave length than do light rays used in light microscopy, giving the microscope which employs them a proportionately greater resolution.

As a brief comparison: the resolution of the human eye is 1/10 of a millimeter; a good light microscope can achieve a resolution of .2 of a micron (one micron equals 1/1000 of a millimeter); the theoretical limit of the electron microscope's resolution is 1/40 of an angstrom (one angstrom equals 1/10,000 of a micron). Thus the electron microscope theoretically can attain a resolution 80,000 times better than that of the best light microscope and millions of times better than that of the human eye.

At present, even under the best conditions, aberrations in the magnetic lenses, variation in current and voltage, and thickness of specimens limit the resolution of the electron microscope to between five and ten angstroms. In dealing with biological preparations, investigators using an electron microscope such as the one here and under ordinary laboratory conditions are working with resolutions ranging for 15 to 50 angstroms. Even at this range of resolution the electron microscope can give a clear view of macromolecules such as large protein molecules and certain viruses which can never be seen under a light microscope.

The electron microscope can also give higher magnification than does the light microscope. Our scope can be adjusted to a magnification of between 1000 and 100,000 times that of the naked eye. Ordinarily the light microscope gives a maximum magnification of 2000 times that of the eye.

Dr. Hartley points out that the electron microscope does have important limitations. The poor penetrating power of electrons limits the usefulness of the scope to study of very thin specimens (about 1/40 of a micron). Then, because specimens must be in a vacuum when viewed, they must be dry; and therefore the electron microscope cannot be used to study living tissue.

Preparation of specimens of this thickness is a complicated process. After the tissues

are fixed and embedded, sections are cut on the microtome with a diamond knife or the freshly broken edge of plate glass. They must then be mounted on tiny grids covered with a thin plastic membrane on which a thin layer of carbon has been evaporated. This membrane supports the section so that it can withstand the electron beam.

Since the middle of last year 100 different tissues have been embedded and made ready for sectioning and studying. Many of these have already been studied and photographed with special high-resolution film used in the scope's cameras. More than 1000 negatives have been prepared, and hundreds printed for a permanent record of tissue studies.

Dr. Hartley is assisted in the laboratory by two highly trained technicians, Miss Charlotte Bebb and Mrs. Martha Jo Harkey, who prepare specimens, operate the microscope, and carry out the required photographic procedures. Mrs. Rebecca Burt, a newcomer to the laboratory, is presently being trained.

Several members of the Medical Center staff are collaborating with Dr. Hartley on research projects in which electron microscopy is involved, and increasing attention is being paid to training graduate students in electron microscopy so that they may use the scope in their own research work.

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#### DR. VOLKER GRANTED LEAVE TO DIRECT STUDY FOR ARIZONA

Dr. Joseph F. Volker has been granted a year's leave of absence to serve as director of a medical school study for the Board of Regents of the Universities and State Colleges of Arizona.

Dean of the School of Dentistry since 1948 and director of research and graduate studies here since 1955, Dr. Volker will begin his new assignment on July 1.

Arizona is among the fastest-growing sections of the United States, according to population figures, and this rapid growth presents ever-increasing needs for development of greater health services. Dr. Volker said the study he will undertake is planned to de-



termine how the state can best meet these needs.

President Frank A. Rose said in announcing the leave that Arizona's choice of Dr. Volker for this work is a tribute to his excellent abilities and that his service in this capacity will bring honor and recognition to the University.

Known throughout the nation for his work in the fields of dentistry, medical research, and graduate studies, Dr. Volker has in the past carried out a number of special academic assignments, some of which have taken him to foreign lands for study and teaching.

Before coming to the Medical Center, Dr. Volker was dean of the dental school at Tufts University in Massachusetts. He is a graduate of Indiana University (D. D. S.) and the University of Rochester (A. B., M. S., Ph. D.).

#### LIFE VISITS THE CENTER

A Life Magazine reporter and photographer visited the Medical Center in February to gather information and pictures on Dr. Wendell Taylor's orthodontics research project and to cover the National Dental Health Week contest sponsored by the Birmingham District Dental Society.

The Life reporter learned how Dr. Taylor is comparing cephalometric measurements of Southern children with norms for the country as a whole in an attempt to establish whether or not there is a physiognomical difference peculiar to this region.

In covering the third annual Smile and Dental Health Poster Contests—held in connection with National Dental Health Week—the two Life representatives interviewed and photographed Janice Whisenhunt and Steve Hallman, first-place winners in the Smile competition.

#### NEW \$1.5 MILLION HOUSING PROJECT TO BE BUILT THIS SUMMER

A \$1.5 million student-facility housing project will be built at the Medical Center this summer.

The project will include an eight-story



This sixty-two unit apartment building will be constructed this summer to house medical students and faculty families. The eight-story building will be ready for occupancy by September '61.

building containing 62 apartments, a court of 12 two-story units, and a community day nursery.

The project will be financed through a loan of \$1,555,000 from the Community Facilities Administration, according to Dr. Richard T. Eastwood, executive director of University affairs in Birmingham.

Dr. Eastwood said there will be 62 two-bedroom apartments. These will all be located in the garden-type court units along with four three-bedroom apartments. Fourteen efficiencies and 48 one-bedroom apartments are planned for the larger building.

All units should be ready for occupancy by September 1961, he said.

#### DR. EDDLEMAN, JR. ELECTED PRESIDENT OF CLINICAL RESEARCH GROUP

Dr. E. E. Eddleman, Jr., associate professor of medicine, was recently elected president of the Southern Section of the American Federation for Clinical Research at its annual meeting in New Orleans. Dr. Eddleman has served as secretary-treasurer of the section for the past three years.

#### DR. FINN FIRST VISITING PROFESSOR TO BRAZIL UNDER KELLOGG PROGRAM

First visiting professor to the Brazilian Association of Dental Schools under a new program this summer will be Dr. Sidney B. Finn, professor of dentistry here.





**DR. REYNOLDS HONORED**—Dr. Earl E. Barth, newly elected president of the American College of Radiology, is shown congratulating Dr. Lawrence Reynolds (left), past president of the college, upon receiving the college's gold medal for his outstanding contributions to the college . . . and the profession for which it stands. Dr. Reynolds, donor of the extensive collection of historic medical books and documents housed in the Reynolds Library at the Medical Center, is a native of Alabama.

Dr. Finn, who is head of pedodontics, will be in Rio de Janeiro for six weeks beginning July 1.

The visiting professorship is sponsored by the W. K. Kellogg Foundation of Battle Creek, Mich., in cooperation with the Brazilian Association of Dental Education to strengthen dental education in the South American country. An outstanding dental educator from the United States will be sent to Brazil annually.

#### VA TO ADD ANIMAL LAB

A \$200,000 animal research laboratory will be added to the Veterans Administration Hospital this summer.

The new laboratory will include a cage area, operating rooms, a radioisotope lab, storage space and offices.

Equipment for the new unit will run a little over \$50,000, according to the VA.

Dr. Buris R. Boshell, assistant professor of medicine in the Medical College and clinical investigator in the VA Hospital's research department, will be director of the new lab.

#### STAFF ACTIVITIES

Dr. Tinsley R. Harrison, professor of medicine, attended the British-American Council meeting on the incidence of heart disease last month in London. Dr. Harrison was a delegate of the American Committee of this council which was sponsored by the US Public Health Service.

Dr. Walter B. Frommeyer, Jr., professor and chairman of the department of medicine, and Dr. William J. Hammack, hematology division of the department of medicine, attended the Cancer Chemotherapy meeting in Bethesda, Maryland, last month.

Drs. Ward Pigman, William Hammack, Margaret Henry and Mr. Edgar Gramling attended a course on Arthritis and Related Disorders recently at the New York University Postgraduate Medical School.

Dr. S. Richardson Hill, Jr., associate professor of medicine, participated in the Third Oklahoma Colloquy on Advances in Medicine at Oklahoma City last month. Dr. Hill spoke on "Adrenal Cortical Secretory Activity in Rheumatic Disease States."

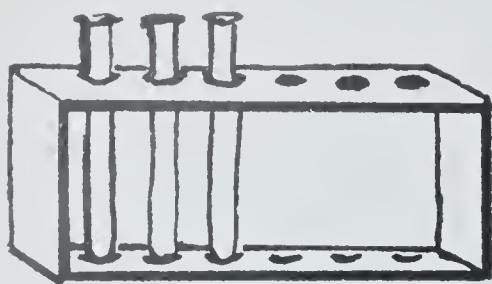
Dr. Arthur H. Wuehrmann, associate dean of the School of Dentistry, spoke on "Postgraduate and Graduate Curricula in Dental Radiology" at the University of Illinois College of Dentistry's workshop on teaching of radiology in dentistry last month.

#### BLOOD DRIVE SUCCESSFUL

University Hospital and Hillman Clinic employees donated 492 pints of blood to the Red Cross blood program this year.

Commenting on the successful program, Matthew F. McNulty, Jr., administrator, said: "The Red Cross has informed us that we are still the first and only hospital in the State of Alabama and the only hospital in the Southeastern region with more than 1000 employees to qualify for total group coverage. This is most gratifying. More importantly, however, I am pleased that this invaluable free health insurance protection is again for the second consecutive year available to our employees."





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.  
State Health Officer

### AMERICAN PUBLIC HEALTH ASSOCIATION SURVEY

The American Public Health Association recently conducted a nation-wide survey of problems and progress in public health in 1959 as seen by the executive officers of various health jurisdictions. The executives were asked to answer the following questions: What do you regard as the outstanding public health achievements in your health jurisdiction in 1959? What are the most important newly emerging health problems in your health jurisdiction as they affect people directly? What are the most important newly emerging public health problems in your health jurisdiction as they affect program administration? What are the most important long-standing public health problems in your health jurisdiction? What do you predict will be the most significant new problem to face you during 1960? What do you predict will be the most significant new development in public health in your health jurisdiction during 1960? If you had adequate personnel and finances, to which program innovation or expansion would you attach the greatest importance and why?

Alabama's needs and interests, according to the results of the survey, are generally in line with those of the rest of the country, even though different priorities may be assigned. A brief summary of the American Public Health Association's findings follows.

"Queried by the American Public Health Association, a nationwide panel of public health directors indicated that the most important need during 1960 is for an expansion of local health services. All state and territorial health officers were included in the

survey, as well as a sampling of directors of city and county health departments and the regional medical directors of the U. S. Public Health Service.

"Listed most frequently as top public health achievement in 1959 was the initiation of improved programs for the control of chronic disease, including mental illnesses.

"The effect of our trend towards metropolitan living, and the newer environmental hazards presented by atmospheric pollution, ionizing radiation and the protection of food-stuffs was reflected in sanitation being most frequently mentioned as an important newly emerging health problem.

"The securing and training of competent public health personnel was given top billing by the public health specialists amongst problems related to the efficient administration of their current programs.

"Dr. Berwyn F. Mattison, Executive Director of the American Public Health Association, pointed out that other areas of grave concern included mental health, radiologic health and the field of aging. The prediction was made repeatedly by the health experts surveyed that expansion and recognition of both state and local health services will be necessary in order to assure optimum health in our communities with today's high levels of medical and sanitary science.

"Satisfactory progress was reported from many parts of the country in the control of poliomyelitis and tuberculosis in addition to the various disease control programs already mentioned. Improvement in nursing home facilities was another area in which progress was reported. However, nowhere was the shortage of trained personnel said to have been overcome during the preceding year. It remains as the most universal long-standing public health problem in most jurisdictions."



DEPARTMENT OF HEALTH

BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

January 1960

Examinations for malaria.....	19
Examinations for diphtheria bacilli and Vincent's .....	48
Agglutination tests.....	433
Typhoid cultures (blood, feces and urine)....	510
Brucella cultures.....	1
Examinations for intestinal parasites.....	2,849
Darkfield examinations.....	7
Serologic tests for syphilis (blood and spinal fluid).....	23,020
Examinations for gonococci.....	1,591
Complement fixation tests.....	11
Examinations for tubercle bacilli.....	3,634
Examinations for Negri bodies (smears & animal inoculations).....	184
Water examinations.....	1,996
Milk and dairy products examinations.....	4,221
Miscellaneous examinations.....	1,092
Total.....	39,616

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BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1960

	December	January	*E. E. January
Typhoid and paratyphoid.....	0	2	3
Undulant fever.....	0	0	0
Meningitis .....	1	6	12
Scarlet fever .....	69	118	79
Whooping cough.....	30	11	47
Diphtheria .....	15	7	17
Tetanus .....	1	2	2
Tuberculosis .....	113	103	175
Tularemia .....	0	3	1
Amebic dysentery.....	4	33	1
Malaria .....	0	0	0
Influenza .....	77	25,282	1,393
Smallpox .....	0	0	0
Measles .....	28	126	260
Poliomyelitis .....	5	7**	4
Encephalitis .....	3	2	1
Chickenpox .....	53	126	273
Typhus fever.....	0	0	0
Mumps .....	84	220	141
Cancer .....	392	494	416
Pellagra .....	0	0	0
Pneumonia .....	241	346	282
Syphilis .....	131	115	170
Chancroid .....	2	1	4
Gonorrhea .....	210	293	323
Rabies—Human cases.....	0	0	0
Pos. Animal heads.....	3	8	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

\*\*Delayed cases of poliomyelitis. Add to 1959 totals.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

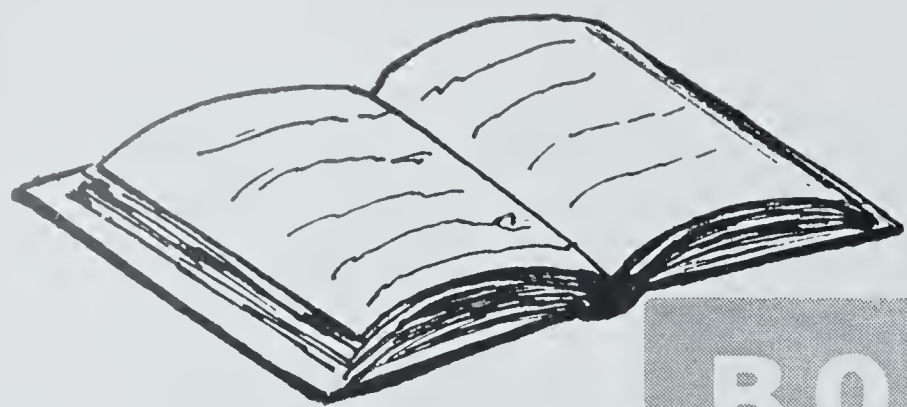
PROVISIONAL BIRTH AND DEATH STATISTICS AND COMPARATIVE DATA,

NOVEMBER 1959

Live Births Deaths Causes of Death	Number Registered During November 1959			Rates* (Annual Basis)		
	Total	White	Non-White	1959	1958	1957
Live births.....	6,722	4,140	2,582	25.4	25.9	26.8
Deaths .....	2,360	1,452	908	8.9	9.0	9.8
Fetal deaths.....	138	55	83	20.1	18.8	22.2
Infant deaths						
under one month.....	165	84	81	24.5	19.9	21.4
under one year.....	241	117	124	35.8	31.2	32.2
Maternal deaths.....	4	1	3	5.8	5.8	7.0
Cause of Death						
Tuberculosis, 001-019.....	23	10	13	8.7	10.3	6.9
Syphilis, 020-029.....	1	1		0.4	1.5	3.5
Dysentery, 045-048.....	1		1	0.4		0.8
Diphtheria, 055.....	3	2	1	1.1	0.4	0.4
Whooping cough, 056.....					0.8	
Meningococcal infections, 057.....	1	1		0.4	0.8	
Poliomyelitis, 080, 081.....	2	2		0.8	0.4	0.4
Measles, 085.....						
Malignant neoplasms, 140-205.....	286	197	89	107.9	114.7	109.7
Diabetes mellitus, 260.....	42	24	18	15.8	13.3	11.9
Pellagra, 281.....					0.8	0.8
Vascular lesions of central nervous system, 330-334.....	335	206	129	126.4	130.0	139.4
Rheumatic fever, 400-402 .....	1		1	0.4	0.4	0.8
Diseases of the heart, 410-443.....	789	520	269	297.7	288.1	315.4
Hypertension with heart disease, 440-443 .....	140	50	90	52.8	50.3	57.8
Diseases of the arteries, 450-456.....	44	29	15	16.6	22.9	17.7
Influenza, 480-483.....	6	4	2	2.3	3.0	26.6
Pneumonia, all forms, 490-493.....	74	37	37	27.9	25.5	39.7
Bronchitis, 500-502.....	5	4	1	1.9	2.3	2.3
Appendicitis, 550-553.....	3		3	1.1	1.1	1.2
Intestinal obstruction and hernia, 560, 561, 570 .....	12	9	3	4.5	3.4	1.9
Gastro-enteritis and colitis, under 2, 571.0, 764.....	10		10	3.8	3.0	2.3
Cirrhosis of liver, 581.....	13	8	5	4.9	4.2	4.6
Diseases of pregnancy and childbirth, 640-689 .....	4	1	3	5.8	5.8	7.0
Congenital malformations, 750-759 .....	30	20	10	4.5	3.7	4.6
Immaturity at birth, 774-776 .....	53	25	28	7.9	5.0	5.6
Accidents, total, 800-962.....	139	93	46	52.4	74.3	63.5
Motor vehicle accidents, 810-835, 960.....	74	60	14	27.9	43.4	26.6
All other defined causes .....	369	219	150	139.2	140.2	147.5
Ill-defined and unknown causes, 780-793, 795 .....	114	40	74	43.0	34.7	49.7

Rates: birth and death—per 1,000 population  
infant deaths—per 1,000 live births  
fetal deaths—per 1,000 deliveries  
maternal deaths—per 10,000 deliveries  
deaths from specified causes—per 100,000 population





## BOOK REVIEWS

### **The Acute Medical Syndromes and Emergencies.**

By Albert S. Hyman, M. D., Associate Clinical Professor of Medicine, New York Medical College, with 4 collaborators. Cloth. Price \$8.75. Pp. 442. Landsberger Medical Books, Inc., 51 E. 42nd Street, New York, 1959.

This is a small, concisely written book whose aim is to bring together in brief form the principles of treating medical emergencies. These are listed in sections to include the cardiovascular emergencies, the gastro-intestinal emergencies, pulmonary, diabetic and renal crises, and barbiturate intoxication. The editor and his collaborators have done an excellent job of compiling and subdividing the various acute states and situations under these various headings. It seems to this reviewer that there is actually no new material included in this small book. All of the knowledge contained therein is also contained in any standard textbook of Internal Medicine. However, the approach is good and it might serve as a handy reference for emergency clinics and in a situation where emergencies would be expected to arise with inadequately trained personnel.

E. Fred Campbell, M. D.

**Ciba Foundation Symposium on the Regulation of Cell Metabolism.** Edited by G. E. W. Wolstenholme, O. B. E., M. A., M. B., B.Ch., and Cecilia M. O'Connor, B.Sc. Cloth. Price, \$9.50. Pp. 387 with illustrations. Little, Brown and Company, Boston, 1959.

This volume is another report of a Ciba Foundation Symposium. It represents a valuable collection of experimental work and would be of real interest to the physiologist or biochemist. It contains little of practical value to the practitioner.

Seventeen papers are given and such subjects as the following are discussed: some topographical aspects of the regulation of cell metabolism; quantitative aspects of the control of oxygen utilization; some problems in the choice of oxidative pathways of carbohydrate metabolism; limiting factors in glycolysis of ascites tumour cells and the Pasteur effect; phosphate turnover and Pasteur effect.

The Ciba Foundation should be commended for the valuable service it renders by holding and reporting its excellent series of symposia.

Luther L. Hill, M. D.

**Pain and Itch. Nervous Mechanisms.** Editors for the Ciba Foundation: G. E. W. Wolstenholme, O. B. E., M. A., M. B., M. R. C. P., and Maere O'Connor, B. A. Board. Price \$2.50. Pp. 120, with 41 illustrations. Little, Brown and Co., 34 Beacon Street, Boston 6, 1959.

This is one of those excellent compilations which is of interest to only a few specialized groups. This Ciba study is of interest to the people in the field of neurology, neurosurgery or neurophysiology. It consists of a group of eight papers dealing with peripheral nerve mechanisms of pain and the experimental method by which this work is carried on. Of great interest to this reviewer was the fact that these experts feel that there is a very deep relation between the mechanism of pain and itch. In fact this is such a well-founded fact that the physiologists feel that they can investigate the problem of pain through animal studies on itch. Both of these sensations are carried by the same fibers.

The last paper in the group is entitled "Studies on the Mechanism of Pain in Trigeminal Neuralgia." This study is of interest to those in clinical medicine because it is an attempt to evaluate not only the refractory period of this disorder but also the effect of certain drugs in the treatment of trigeminal neuralgia. These investigators report that there is some (but not complete evidence) that trigeminal neuralgia can be abated to a great extent by the anti-epileptics such as diphenylhydantoin.

E. Fred Campbell, M. D.

**Medieval and Renaissance Medicine.** By Benjamin L. Gordon, M. D., F. I. C. S. Cloth. Price, \$10.00. Pp 843, illustrated. Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y., 1959.

The publishers say that "one of the great blind spots in medical history is the medieval period. This book fills this void by offering for the first time a thoroughly documented work on the practice of medicine during the Middle Ages and early Renaissance. It should be of special interest to historians, physicians and students of the period."

It is a monumental work and a distinct contribution to the history of medicine—not a book one would likely attempt to encompass in a night or two but a volume a physician would want to read from time to time to appreciate again the work of men whose names will always live in medicine—Eustacchio, Fallopius, Galen, Langerhans, Mal-



## BOOK REVIEWS

pighi, Pare', Vesalius, and many more. The amount of research involved in the preparation of the work must have been staggering.

Whatever a physician's specialty may be, he will find the volume interesting.

Douglas L. Cannon, M. D.

**Virus Hunters.** By Greer Williams. Cloth. Price, \$5.95. Pp. 503, and index of 19 pages. Alfred A. Knopf, Publisher, New York, 1959.

While traveling recently I had the time to review this new book by Greer Williams. Since I have been interested in viruses for a number of years, I read his book with considerable interest. What is rather amazing is that Mr. Williams has been able to do such a thorough job in presenting this material so concisely and relatively error free.

When the author describes those who first saw viruses, I think he is somewhat confusing since he really is discussing what are not now considered true viruses. Also, in his discussion of c. f. methods he refers to complement fixation antibodies as neutralizing antibodies which is not quite true. These are rather small errors and in no way detract from the book itself. I felt that he overplayed the role of Dr. Stanley in his discussion on viruses and was somewhat amazed to see no mention made of Karl Meyer and his beautiful work on psittacosis. Here again the author may have ruled out discussion on psittacosis because it is not thought of now as being a true virus. Regardless, the pioneer work of Meyer should have been accorded more discussion.

To me and the general reading public, I think the chapter on discussions of polio vaccine will be the most interesting, since it covers very well the happenings which occurred after live virus was found in the Salk vaccine. The final chapter on the relation of viruses to cancer and their relation to genes makes enjoyable reading, especially for those who like to anticipate newer discoveries in the field.

I heartily recommend this as good reading by anyone.

Thos. S. Hosty, Ph.D.

**The Physician and the Law.** By Rowland H. Long, Member of the Massachusetts and New York Bars, Assistant Professor in Forensic Medicine, New York University Postgraduate Medical School. Cloth. Price, \$5.95. Pp. 302. Appleton-Century-Crofts, Inc., 35 W. 32nd Street, New York 1, 1959.

This is the second edition of a most excellent book whose primary objective is for teaching medical jurisprudence. It is concisely written and covers most of the aspects of medicolegal problems as they face physicians today. The book opens with an excellent chapter on the relationship between physician and patient, goes on into malpractice problems and gives illustrative cases. It then takes up such subjects as diagnostic aids as evidence in court, autopsy and violent death. There

is a very excellent chapter on the involuntary commitment of the mentally ill. There is a chapter called The Physician and the Criminal Law in which abortions, narcotics, manslaughter and euthanasia are among the subjects discussed fully. There is a very excellent discussion of the problem of privileged communication received by the physician and its relation to legal statute. The last two chapters should be required reading for any physician who is called as a witness in court. One chapter is called the Testimony of Experts and the second is called On the Witness Stand. This book is well written, concise and can be recommended to any physician wishing to increase his knowledge of medicolegal problems.

E. Fred Campbell, M. D.

**A Doctor's Life of John Keats.** By Walter A. Wells, M. D. Cloth. Price, \$3.95. Pp. 247, illustrated. Vantage Press, Inc., 120 W. 31st Street, New York 1.

When one thinks of John Keats, one thinks of him as a poet, not as a physician whose life "as a disciple of Aesculapius is far too little known." Of this part of his life, Dr. Wells writes charmingly. "Under Dr. Wells' skilled hand, a new and vivid portrayal takes form: A poet tortured by a doomed love affair; a young apothecary apprentice preparing pills and powders, applying bandages, helping set broken bones; a slight youth standing on tiptoe, not upon a little hill to see 'the buds, with their modest pride pulling droopingly,' but in Guy's, beside a dissecting table, to be in a better position to wield the scalpel on a gruesome corpse, for reasons anatomical."

"Just when Keats made up his mind to abandon medicine for a career of poetry cannot be exactly stated," but the pull was irresistible and even when tuberculosis was about to claim him, he exclaimed:

"O for ten years, that I may overwhelm  
Myself in poesy; so that I may do the deed  
That my own soul has to itself decreed."

He lived only about five years, dying before he was twenty-six.

Those who like biographies, and I think nearly everyone does, can read this book with pleasure and profit.

Douglas L. Cannon, M. D.

ANNUAL SESSION  
ADMIRAL SEMMES HOTEL  
MOBILE

APRIL 21, 22, 23, 1960



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## AMERICAN MEDICAL ASSOCIATION NEWS

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### STATISTICS PROVE SEX HORMONES AID VICTIMS OF BREAST CANCER

The first statistical proof that sex hormones can prolong the life of women with disseminated breast cancer was published recently in the *Journal* of the American Medical Association.

An exhaustive 12-year study also showed that female hormones (estrogens) were "inherently superior" to male hormones (androgens) in treating cancer that has spread from the breast. At the same time the findings disproved a number of commonly held beliefs concerning hormonal therapy.

"The relative effectiveness of these two classes of sex steroids has been determined in physiologically homogeneous groups of such size as to permit statistically valid conclusions for the first time," according to Dr. Ian Macdonald, Los Angeles, chairman of the A. M. A. Subcommittee on Breast and Genital Cancer.

The *Journal* article is the final report on the study initiated in 1947 under the sponsorship of the A. M. A. Clinical data on 944 women with disseminated mammary carcinoma was pooled from a cross-section of investigators in the United States and Canada. The purpose was to clarify the use of sex hormones which came into use in the '40s.

"The study will undoubtedly serve as a base line for comparative evaluation of studies which are under way in the field of cancer," Dr. Macdonald said.

"The most significant and most consistent phenomenon in the behavior of the disease under hormonal treatment, both by androgens and estrogens, was the increased survival time of patients in whom objective regression of disease occurred," the researchers reported.

The average survival period of those who did not respond to hormone treatment ranged from 8 to 11 months following the initiation

of the treatment, which was about the same as that for those receiving no treatment.

For those who responded to the treatment, the survival time ranged from 18 to 27 months.

The frequency of tumor regression among 580 patients treated with androgens was 21.4 per cent. The frequency of a measurable decrease in cancer among 364 patients treated with estrogens was 36.8 per cent.

The estrogen-treated patients also survived for a longer period of time than did those treated with androgens. Those who responded to estrogens lived for an average of 27.3 months, compared with 19.1 for those given androgens.

The female hormones were given only to women in which menopause had occurred. Before menopause, estrogens may augment breast cancer.

The subcommittee, on the basis of the study, recommended estrogens as the agents of choice after the fourth postmenopausal year.

The findings refuted the idea held by some that estrogens should not be used until 10 years after menopause, the researchers said.

The study also debunked the belief that androgens were of greater therapeutic value at all ages for cancer involving the bones. It showed that estrogens and androgens were of equal value in the treatment of bony involvement.

The belief that both types of hormones become more effective by reason of a trend in aging women to develop cancer of a less aggressive pattern was not borne out by the study.

It was found that the older woman realizes longer survival than the younger, on the average, but she also tolerates the presence of clinically detectable cancer for a greater fraction of that increased life span.



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## RESEARCH FOR THE FUTURE

LIEUTENANT GENERAL ARTHUR G. TRUDEAU

Department of the Army

It is indeed an honor and a personal pleasure for me to be in this friendly and progressive city today. I always find it a stimulating experience to visit Birmingham in whose vast areas of mines, iron furnaces, and mills is forged the steel that feeds our American economy. This great area, so vital to our national defense, reflects the know-how and zeal of the increasingly powerful, new industrial South.

I want to congratulate this Association on your Diamond Jubilee Year and pay tribute to the service you are rendering and the progress you are making in mankind's fight against tuberculosis. The work you are doing is extremely important also to the Armed Forces.

I also note the honor you have accorded a distinguished member of another branch of the Trudeau family, Dr. Edward Livingston Trudeau, who sought the cure for tuberculosis in the laboratory and pursued its diagnosis and treatment in the sanatorium so successfully. Now, seventy-five years later, I seem to be following family traditions in the research field since I presently direct the Army's Research and Development Program, which, of course, includes extensive research in the medical sciences.

Today I would like to tell you about this program and something of our research ef-

fort for the future which is oriented toward man—the soldier.

In setting the stage for this subject I would like to point out that we are living in a truly revolutionary period of scientific and technological progress. I am sure that you realize that the progress in technology over the past decade is all out of proportion, by several magnitudes, to progress in any similar period of past recorded history. Moreover, what is equally important, the technological advances which have so greatly improved our standard of living have stemmed largely from the results of research, some of it of a military nature.

Each of the modern miracles around us, such as electronic computers, plastic building materials and new energy sources, are here today because of basic research started at least ten to fifteen years before these items were developed. More and more on the national level, not only in the Armed Forces but in industry, we are recognizing that research and development in all fields is essential to our economic progress and national security.

We in the Army have not only contributed to some of these present day miracles but are harnessing today's technological revolution to provide the weapons, equipment, and materiel for tomorrow's needs. We are keenly conscious of the importance of research in our development efforts and support this activity with a substantial part of our yearly budget. We know that many of these developments



born of military necessity will redound to the benefit of the nation and of mankind.

Now why is research and development so important to the Army of the future? The answer to that question lies in recognizing that our ability to provide for the future security of this country and carry out its national objectives in the various land areas of this world will largely be determined by the research and development effort that is being conducted today. We are faced with this fact of life because of the long lead time required to produce operational weapons and equipment. The building blocks of development are but the combination of bits and pieces of increased knowledge in the various scientific disciplines.

There should be no doubt in any of our minds as to why we must have the best possible weapons and equipment in our vital race with the communists. Our ability to maintain and keep a sufficient lead in this technological race may mean our survival in years to come.

I cannot emphasize too strongly the importance in our work of knowing the capabilities of any potential enemy, what he is developing in weapons and equipment, and what his military objectives are. Therefore, let us examine for a moment the real threat that faces us now—the communist threat against which we must plan our organizations and doctrine, and develop our weapons and equipment for the future.

The Sino-Soviet Bloc has more than eight million men under arms, including four million in the armies of Red China, North Korea, and North Viet Nam. Active Soviet forces alone include over 175 ground divisions, 500 submarines lurking in the oceans of the world, and more than 25,000 modern aircraft.

The incredible array of Soviet scientific and technological achievements should give you some indication of the weapons, equipment, and materiel the Soviets have developed. Your conclusion as to the ballistic threat from a country which has launched a successful moon probe and placed a one and

one-half ton satellite into orbit should be about as good as mine.

Not only is the Soviet ready military strength far greater than ours today, but their industrial base, about 40% as great, continues to expand at a rate more than double that of ours. Even this does not quite paint the full picture. Their denial of consumer goods to their own people plus their absolute control of the price structure permits an unusually large portion of their gross national production to be devoted to military research, development and production. That portion of their annual tank production used to equip their satellites and allies exceeds our total annual production.

The communists regard the struggle between themselves and us as a matter of life or death—as it truly is.

Lenin put it this way:

“A funeral dirge will be sung over the Soviet Republic or over world Capitalism.”

Khrushchev needed only four words, 5 syllables to say it:

“We will bury you!” He says he didn’t mean you or me; just our entire system and civilization.

This sort of talk should clear the air for us. It certainly explains the fighting in far-off Laos and the exhaustive effort the Soviets are making to compete with American technology. There is no indication either by their attitude or diplomacy that the Soviets intend to change their course or the goal of their communist ideology. In fact, as far as I know, Khrushchev spoke as the head of the Russian state and not the leader of the Communist party during his visit. The tenets of Marxism cannot be changed even by Khrushchev.

It is against the backdrop of this form of threat that we gear our requirements for the future Army. The sum total of all our objectives and efforts is, within the funding limits imposed, to provide the nation with an Army that is “skilled, tough, and ready-around-the-clock.” This is the kind of Army, which along with our other defense forces, that must be prepared to stand up against the



sinister threat of communism both now and for the years to come.

In this Army we strongly believe that man—the soldier, will play the predominant role.

The environment the soldier will face tomorrow is a severe one in every respect. The total and final nature of war, as it appears to many of the so-called experts, would seem to eliminate man and his chances for survival. This is fear, not fact. They believe that the specter of a general war involving the long-range missile exchange of thermonuclear weapons, or the more conventional delivery of bomber aircraft, would be such a final action that ground forces would not be able to influence the final results. Even when the use of the atomic bomb on Japan was an important factor in surrender, its occupation by up to a half million Americans was necessary to solidify our victory and it was threatened only five years later in Korea when our strength was reduced to a low ebb. The vision and feat of the detonation of nuclear weapons has so clouded the minds of many today that they can see no chance of the individual surviving such a holocaust. The survival of this nation has always required that some of the best and bravest must forego survival and this is still the pattern of things to come.

In contrast to these views, the many studies and analyses of a nuclear war have shown that man can survive such a conflict. Moreover, he can do it without any grossly harmful effects and still be effective as a fighting man in a ground unit.

Remember that this concerned a nuclear conflict *only*. What about the communist predominance of conventional forces—large land armies, clouds of tactical aircraft, and millions of soldiers? Doesn't that indicate their reliance on conventional land warfare and on man-held territory?

*Certainly* the Russians subscribe to this theory. Let me quote to you from a recent article in an authoritative Russian military journal:

"It is true that a contemporary war is a war of the physical, chemical and biological

sciences, of the technical sciences, of science in general, but it is also true that a third World War, like all past wars but to a still greater degree, will be first and foremost a war of man."

To support that lonely man on the battlefield of tomorrow, we have our Army Research and Development Program. It is in this program that we determine the future weapons and equipment that the soldier will use in combat. The Army bases its requirements for its program on the expected threat our nation will have to meet, the concepts of tactics for the battlefield of tomorrow, and on the advances in science and technology today and in the future.

In our research and development program we conduct a substantial amount of basic research in addition to applied research and development. The scope of our activities covers an extremely wide spectrum of developments and we feel our responsibility very keenly whether we are seeking better mobility, communications, firepower, or logistical support.

Most of the basic research is contracted to industry and to some 181 colleges and universities, including the University of Alabama. Ten major fields and 74 sub-fields are covered from mathematics, human factors, and medical projects to polar and arctic research. We will continue to stress this type of work because without it there would be little future development.

There is one basic research area that I believe may be of particular interest to you.

This is the research in medicine now being conducted by the Army Medical Service. A part of this research effort is directed to finding a cure for tuberculosis. Here the Army is pioneering in the use of antituberculosis drugs, beginning with streptomycin and continuing through the newer antibiotics and the nicotinic acid derivatives. We are also exploring new therapeutic chemicals useful not only in tuberculosis but also in the many fungus diseases. We have several studies in progress dealing with basic lung physiology and lung secretions. We hope that the results



of these studies will have broad application not only to the Armed Forces but to civilian health as well.

Not too long ago, in the era prior to 1950, it was necessary to retire all tuberculous patients from military service. This separation followed their receiving the best treatment that we could give them. Nowadays the phenomenal advances in the cure of tuberculous patients through the use of new drugs and the application of lung surgery have caused us not only to improve our treatment program but actually to restore to duty many skilled, career personnel which otherwise would be lost to the services. Since 1950, there have been almost 3,000 tuberculous patients treated in Army hospitals with the result that eighty per cent have been returned to duty. Of equal importance, most of the remaining twenty per cent were restored to normal, useful civilian lives.

Another part of our medical research program is an intensive investigation in the treatment of radiation casualties and other types of wounds on the atomic battlefield. Here we have made important gains toward a practical means of prophylaxis and treatment of radiation injuries. We have also developed a "bone glue" which can be used to cement ends of a broken bone together or to replace missing segments. Surgical techniques have also been advanced so that severed nerve ends, the cause of the majority of the loss of limbs, can be joined again to save an arm or a leg.

Other basic research areas, besides the medical, help sustain the soldier in the ground combat.

One of these concerns new methods of preserving and serving foods which will guarantee the combat soldier a marked improvement in battlefield rations. The soldier will be able to prepare a wholesome meal by simply adding hot water to a wide variety of dehydrated foods.

Another one of our interesting programs for the soldier is in the area of personnel or "human factors" research. Here we are concerned with the selection, classification, utili-

zation, and assignment of our available manpower. We are developing tests which we hope will enable us to identify in advance the man who can and will fight best. This is essential if we are to raise the battle efficiency of our field forces to the highest possible level.

We are also concerned with research for support of military training and with engineering-psychological research to make the machine and the man compatible. As machines become more necessary in combat operations, we must resist the tendency to make them more complex to operate. It often occurs to me that we are in danger of outstripping ourselves in the technological field so that the machine may become the master of the soldier. We can never afford to let this happen. Otherwise, we may well find the machine rendered useless on some future field of battle because of operator failure.

The other category of our program is applied research and development. During this phase, the results of basic research are incorporated into weapons or equipment by the industrial engineer to meet the requirements of the military. Here our needs are generally expressed in the fields of mobility, communications, firepower, logistics, and those designed to support the individual soldier.

Let me mention just a few of these fields.

Communications and electronics are important parts of our program. We recognize that a land force cannot navigate on or over any terrain on this planet without some means of communication control. It also cannot fire and guide missiles without adequate communications and electronic devices to collect the necessary information and data.

Many types of communication equipment are under development to replace those that we have now. Better radios, world-wide communication nets, and more electronic computers and devices promise to increase the flow of information and do it reliably. Many of the breakthroughs we expect in this area stem from advances in the fields of electronics. For instance, electronic parts have



been reduced in size through microminiaturization so that instead of 7,000 parts per cubic foot we can put 700,000 parts in the same space.

Firepower is always a critical part of our program. We have improved weapons soon to be operational that outperform anything we have now. Many types of guided missiles are under development to supplement or replace those that we have now. For instance, *SERGEANT* and *PERSHING*, both surface-to-surface guided missiles, being developed by the Army's great scientific team at Huntsville, Alabama, promise increased accuracy and reliability at greater ranges.

The Army has an important mission in the air defense field, as you know. We are developing a shoulder-fired missile, *REDEYE*, for the soldier to use against attacking aircraft along with the field mobile *HAWK* missile to be employed against low flying aerial targets. Probably our most important contribution in the future will be *NIKE ZEUS*, the only weapons system presently designed to destroy incoming ballistic missiles. We have just successfully fired the sustainer rocket motor for this missile and are now approaching the testing stage of the complete system. In the near future we hope to fire it against our own IRBMs and ICBMs to establish its effectiveness for the air defense of our country. There is an urgent requirement for such a weapon while we are faced with the ballistic missile blackmail of the communists. We are confident that *NIKE ZEUS* can do this job.

The Army's contributions to the national space program, made possible by our experience with missiles, have been substantial. We have enjoyed a good share of success in our projects for the National Aeronautics and Space Administration and the Advanced Research Projects Agency. Probably the most noteworthy of these were the space probe last March, still orbiting the sun as I stand here now, and the recent flight of the monkeys in a *JUPITER* missile. We look forward to participating in the Mercury astronauts' trips in space and conducting more satellite and other space experiments in the future.

The great capabilities existing here in Alabama must be retained as a national asset, whatever the turn in space responsibilities.

Today I have given you some of my thoughts on the Army's Research and Development Program and on the research for the future which is oriented on man—the soldier. Important as new machines and weapons are, they do not have the heart and soul and logic to wage war. They can only increase the fighting man's capabilities in a hostile environment. No weapon or machine is any more effective than the man who must maintain and operate it.

We look to you to support the medical research program in providing protection for our fighting men. The soldier of tomorrow will require not only the means to fight but also protection against disease to win.

We also look to you for additional support of our Armed Forces particularly in arousing the temper of this free nation to meet the challenges of tomorrow. What is needed in this country now is a greater sense of determination, vigilance, and preparedness on the part of all its citizens. We must replace fear with faith, and complacency with courage. The development of the means to provide for the security of this country and for the support of dynamic national policies are well within our technological capabilities if we but knew our strength.

All of you have an important role to play in this effort. As citizens of Alabama, you live in an industrial and agricultural area that is essential to our national economy. As members of this Association, you have shown a continuing interest in improving the health and welfare of our people. As Americans, you represent our nation's ability to meet the challenges of the future with the same great courage and determination that has marked your history and your heritage. Let me say that it will take the best that we have to give to win the titanic struggle ahead.

Malcolm P. McNair of the Harvard Business School restates it like this, and I cannot overemphasize the real significance of this



statement if we are to emerge victorious: "As individuals we shall have to change our scale of values so that we do . . . such things as spending more on defense, taxing ourselves more, working harder, sacrificing something from our standard of living, disciplining ourselves more, curtailing special and costly benefits to privileged economic groups, developing rigorous standards and competitive excellence in education, and channeling our best brains into needful activities for national survival."

That vital challenge of tomorrow is our greatest opportunity today—the opportunity to so advance, so build, so defend, and so cherish this land of ours that in the far distant future America will still be enshrined and sustained as the leader of free men in the hearts and hopes of all the people of the world.

The kind of national spirit I believe we should have—spirit that means service—was expressed clearly by a fellow Vermonter of much earlier vintage. His name was Ethan Allen.

After he had captured Ticonderoga and turned in the booty, the Congress in its timidity considered turning the captured cannon back to the British. Aroused by this gesture, Ethan Allen wrote a letter to Congress and this is what he said among other things:

"I wish to God that America would, at this critical juncture, exert herself. . . . She might rise on eagle wings and mount up to glory, freedom and immortal honor if she but knew her strength."

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Pioneering a new trend in the treatment of mentally disturbed persons, Gracie Square Hospital, of New York City, made public recently its findings at the end of its first year of operation.

Dr. Leonard Cammer, director of the hospital, announced that its program of treating the mind and body at the same time had enabled the hospital to discharge patients with acute mental disorders in an average of 23.9 days last year.

He pointed out that this time contrasted sharply with the months of hospitalization required in the past, and attributed this record to the hospital's intensive program which combines early diagnosis with the most modern physical and psychological techniques existing.

We find that the physical and mental aspects of psychiatric disorders are so closely related that we cannot improve one without improving the other, Dr. Cammer said. We must bring psychiatry into the realm of total medical practice and utilize time-tested principles that have proven effective, he added.

He pointed out that Gracie Square Hospital brings psychiatrists of all different schools together with internists and general practitioners, so that they may integrate all the needs of a person, and through teamwork return him to functioning capacity in the shortest time possible.

The hospital, one of the nation's most modern mental facilities, received 1,087 patients in its first year. Of this number, 90% of the admissions were voluntary.

There were 350 psychiatrists who referred patients to Gracie Square Hospital last year, and 150 internists, gynecologists, surgeons and general practitioners who sent patients as psychiatric admissions, many of whom also needed medical and surgical treatment.

Gracie Square is the only private hospital in Manhattan that will accept a patient suffering from any emotional illness, any time of the day or night or on weekends. As evidence of the need for such facilities, Dr. Cammer noted that 53% of all the hospital's patients last year were received as emergencies between 5 p.m. and 7 a.m.

Among the total number of patients admitted to Gracie Square Hospital last year, 28% were treated for schizophrenic disorders. The greatest improvement in these patients was made through insulin coma combined with psychotherapy, drugs, and a "total push program." The hospital which was active in reviving insulin coma treatment has a fully equipped and staffed unit for its administration.



# PERFORATION OF INFARCTED INTERVENTRICULAR SEPTUM ANTEMORTEM DIAGNOSIS

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and  
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Perforation of the interventricular septum is a rare complication of acute myocardial infarction. The diagnosis is not a difficult one if this entity is kept in mind. The condition is being recognized more frequently in recent years and antemortem diagnosis is becoming more common. Latham<sup>1</sup> was the first to report this complication and describe the pathology and clinical criteria for its recognition. In 1923 Brunn<sup>2</sup> made the first antemortem diagnosis. When Sager,<sup>3</sup> in 1934, reviewed the world literature he could find only 18 cases. In 1953 Bond<sup>4</sup> discovered only 93 cases in a comprehensive study of the literature. By 1956, when Sanders et al.<sup>5</sup> reviewed the subject, a total of 132 cases with established diagnoses was described. The total number of cases detected by 1957, according to Gottsegen,<sup>6</sup> had risen to 172, with an increasing proportion of antemortem diagnoses. Edmondson and Hoxie<sup>7</sup> found only 1 to 2% of deaths from myocardial infarction

were caused by rupture of the interventricular septum. Recently additional cases have been reported by Margoshes et al.<sup>8</sup> and Dimsdale.<sup>9</sup>

In order that a small perforation of the interventricular septum may not be overlooked at postmortem examination, it is imperative that a careful, detailed study of the heart be performed. Small perforations might readily be hidden in the coarse trabeculae of the lower portion of the septum or be covered by thrombi.

It is the purpose of this paper to present a case of perforation of the interventricular septum following acute myocardial infarction diagnosed antemortem. A brief review of the literature on this subject will be included.

## CASE REPORT

Mrs. S. H., a 53-year-old, white female, was admitted to the Highland Baptist Hospital on August 15, 1958 in a state of profound shock and expired nine hours later. She was first admitted to the hospital on August 30, 1954 with a sixteen-year history of recurrent upper abdominal pain with radiation to the right subscapular region. At that time her blood pressure was 156/82. Her heart was not enlarged and no murmurs were heard. The lungs were clear. There was marked tenderness in the right upper quadrant of the

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From the Seale Harris Clinic.

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5. Sanders, R. J.; Kern, W. H., and Blount, S. G.: Perforation of the Interventricular septum complicating myocardial infarction, *Am. Heart J.* 51: 736, 1956.

6. Gottsegen, G.; Szam, I.; Romoda, T., and Matheides, P.: Perforation of the infarcted septum; observations on pathology and haemodynamics, *Acta Medica Scandinavica* 158: 157-162, 1957.



abdomen. X-ray of the chest showed a normal size heart with mild dilatation of the aorta in which early sclerotic changes were present. At operation September 2, 1954 multiple gallstones were found in an acutely inflamed gallbladder. Her postoperative course was uneventful. In February 1957 her blood pressure was 194/90; and in May 1957, it was 170/90.

Her second and final admission to the hospital was on August 15, 1958. She apparently had been well since last seen until 48 hours prior to admission when she developed severe substernal pain with radiation into the mid-back, followed by nausea and vomiting. She was seen by her local doctor who administered an injection for the pain. During the night it was stated that she was very restless and complained of continuous pain in the chest and back. The pain apparently continued except when relieved by injections. The attending physician stated that her blood pressure was high. During the second night relatives noted that she was cold, clammy, and sweating profusely. When seen the following morning, her local doctor arranged for immediate transfer to the hospital. Upon admission the blood pressure was unobtainable and no pulse could be felt at the wrist. The skin was cold, wet, and clammy. She appeared drowsy but was able to talk rationally. The heart sounds were quite distant and a soft apical systolic murmur was heard. The lungs were clear. Examination of the abdomen revealed no palpable organs or masses and there was no tenderness. The white blood count was 22,900 with 78 neutrophils, 16 lymphocytes, and 6 monocytes. The PCV was 44%. Hemoglobin 13.3 gm. One nucleated RBC was noted.

She was first seen by a surgical colleague who administered 10 mgm. of neosynephrine by intravenous drip. She was given Demerol for pain and placed in an oxygen tent. Slight response was noted to this therapy. The patient's skin became dry and the blood pressure was heard at 85 systolic but the diastolic pressure could not be determined accurately. At this time a grade 4 apical systolic murmur, loudest along the left sternal border, was

heard. Three hours later the blood pressure was not obtainable. She was given 30 mgm. of Wyamine intravenously without response. An infusion of Levophed® was begun, again without response. The concentration of Levophed® in the infusion was increased several times without response. Six hours after admission cyanosis appeared; the patient, however, remained conscious. Her condition steadily deteriorated; the heart sounds became barely audible and nine hours after admission the patient expired. The murmur persisted until shortly before death when the cardiac rate began to decrease and the heart sounds became very indistinct. Because of the history, the irreversible shock, and the appearance of a loud systolic murmur along the lower left sternal border during the period of observation, an antemortem diagnosis of myocardial infarction with rupture of the interventricular septum was made.

An electrocardiogram was requested but had not been obtained when the patient expired.

Postmortem examination confirmed the diagnosis.

The interventricular septum showed an area of necrosis measuring approximately 2.8 cm. in diameter. Located within this area 4 cm. from the apex was a perforation 1.5 cm. in length (Fig. 1).

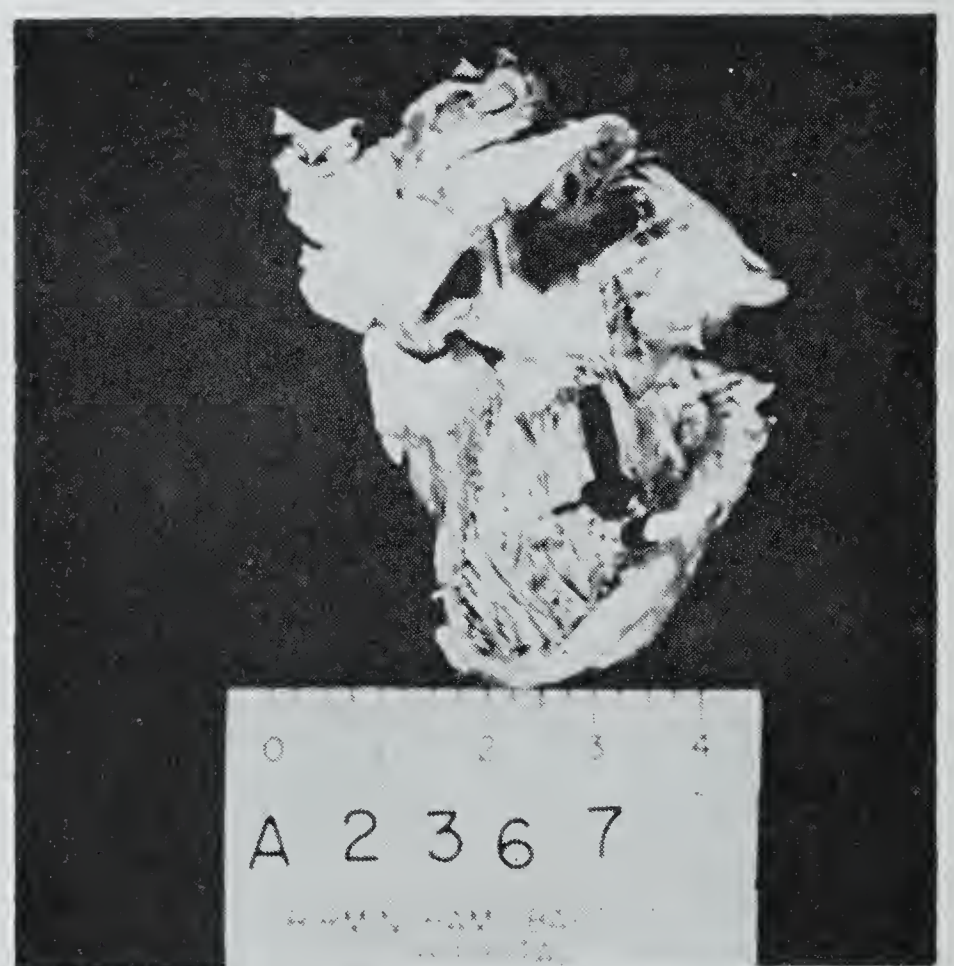


Figure 1. Photograph of the interventricular septum with a probe placed through the perforation.



## DISCUSSION

*The clinical picture:* Following an acute myocardial infarction a sudden change for the worse in symptoms and physical signs, together with the appearance of a loud, blowing, low-pitched systolic murmur along the left sternal border in the 4th or 5th intercostal space, is highly suggestive of septal perforation. Conspicuous accentuations are noted in the degree of anginal pain, dyspnea, and cyanosis, with the development of congestive heart failure and/or peripheral vascular collapse. A systolic thrill often accompanies the systolic murmur. A diastolic murmur has been noted in only 4 cases. Careful auscultation will reveal the systolic murmur appearing within the first week following the acute infarction. In the cases described by Edmondson and Hoxie,<sup>7</sup> an average fall in the systolic blood pressure of 75 mm. of mercury was recorded. The heart tones are weak and distant and the pulse is of feeble quality.

*Differential diagnosis:* Systolic sounds developing after acute myocardial infarction are heard with rupture of a papillary muscle, with the onset of a pericardial friction rub, or functional mitral insufficiency. Most important in the differential diagnosis is rupture of a papillary muscle, in which case the following clues are helpful:<sup>10</sup> (1) the murmur is usually diastolic rather than systolic with greatest intensity over the apex; (2) a thrill is almost never present; (3) acute left ventricular failure develops more commonly.<sup>11, 12</sup> Factors other than acute myocardial infarction may produce rupture of the interventricular septum, including trauma, neoplasm, infection,<sup>13, 14</sup> and parasitic invasion.

In the differential diagnosis should be included rupture of a chorda tendinea,<sup>15</sup> rupture of a congenital aneurysm of the membranous portion of the septum or sinus of Valsalva, rupture of a mitral or aortic valve, subacute bacterial endocarditis,<sup>14</sup> and congenital ventricular septal defect.

The time interval from onset of the acute myocardial infarction to perforation of the septum has ranged from a minimum of 4 hours to a maximum of one month.<sup>4</sup>

The electrocardiogram is important in the diagnosis of some cases. Reiff<sup>16</sup> described the electrocardiographic patterns associated with septal infarction as: (1) auriculoventricular block; (2) right ventricular conduction defects; (3) left ventricular conduction defects; (4) Q waves and/or RS-T segment displacement in right ventricular leads directly referable to, or at least suggestive of, septal infarction, and (5) absence of direct evidence of a septal lesion. However, Sahagun and Burns<sup>10</sup> are of the opinion that the electrocardiograms of their 4 reported cases showed no characteristic changes following perforation which would help in substantiating the clinical diagnosis of perforation of the interventricular septum.

Catheterization of the heart has recently been performed in an effort to confirm the diagnosis of perforation of the septum. Muller et al.<sup>17</sup> were able to confirm the diagnosis of septal rupture in vivo by cardiac catheterization but Sanders et al.<sup>5</sup> could not demonstrate by such studies the existence of a perforation since no shunt was proved.

*Clinical course:* Interventricular septal perforation is usually associated with exten-

10. Sahagun, E., and Burns, R. O.: Perforation of the interventricular septum following acute myocardial infarction: A report of four cases diagnosed antemortem, *Ann. Int. Med.* 44: 657, 1956.

11. Bickerman, L. J., and Irons, E. E.: Myocardial infarction resulting in interventricular septal perforation: Report of a case diagnosed during life, *Ann. Int. Med.* 31: 918, 1949.

12. Goetz, A. A., and Gropper, A. N.: Perforation of the interventricular septum, *Am. Heart J.* 48: 130, 1954.

13. Diaz-Rivera, R. S., and Miller, A. J.: Rupture of the heart following acute myocardial infarction, *Am. Heart J.* 35: 126, 1948.

14. Levy, L., II, and Hull, E.: Perforation of the interventricular septum in a case of subacute bacterial endocarditis, *Am. Heart J.* 33: 856, 1947.

15. Bailey, O. T., and Hickam, J. B.: Rupture of mitral chorda tendineae: Clinical and pathologic observations on 7 cases in which there was no bacterial endocarditis, *Am. Heart J.* 28: 578-600, 1944.

16. Reiff, W. H.: Rupture of the interventricular septum due to myocardial infarction: Report of two cases, *Ann. Int. Med.* 40: 1125-1134, 1954.

17. Muller, O.; Hummerfeld, S.; Rasmussen, H., and Storstein, O.: *Acta Cardiol.* 5: 633, 1950.



sive infarction of the myocardium, hence the high mortality. Within the first week after the perforation approximately 50% die; 13% survive the second month; one patient has survived over 6 years.<sup>18</sup> The poor survival rate is in part due to the severity of the congestive failure which is refractory to the most meticulous care. The prognosis is invariably poor as compared to an uncomplicated acute myocardial infarction, where approximately 80% of the patients survive the initial attack and 25% remain alive 10 years after the first episode.

*Treatment:* The treatment of a perforated septum is that for acute myocardial infarction, including bed rest, morphine for relief of pain, oxygen, anticoagulants, measures to relieve shock such as norepinephrine, and digitalis for congestive failure. Medical treatment at its best is usually very dramatic but futile.

In recent years surgical intervention has been attempted to correct septal rupture. In 1957 Cooley et al.<sup>19</sup> reported closure of an acquired septal perforation of 11 weeks' duration, resulting from myocardial infarction, the diagnosis having been confirmed by cardiac catheterization. It was their impression, although death occurred from technical reasons 45 days later, that a direct surgical correction of this and other complications of acute myocardial infarction may be feasible.

Although infarction of the interventricular septum is known to occur in the majority (70%) of all cases of myocardial infarction,<sup>20, 21</sup> spontaneous perforation of the sep-

tum is rare, occurring in only 1 to 2% of cases. In contrast, rupture of the heart wall occurs in about 8% of cases.<sup>22, 23</sup> The anterior portion of the septum is the most commonly infarcted, since it receives its blood supply from the left coronary artery, which is known to thrombose at least three times more frequently than the right. It is believed that good collateral circulation of the septum probably prevents its rupturing more often. In spite of this collateral circulation, extensive infarction and necrosis are known to be common. Additional factors of importance are hypertension, lack of reparation, and old age. Hypertension would seem to play a prominent role in increasing the intraventricular pressure known to predispose to rupture of the heart.<sup>7, 23, 24</sup> Although myocardial infarction occurs more commonly among men, heart ruptures are known to occur more frequently among women, probably due to the hypertensive factor. The majority of septal perforations are found in the anteroapical portion of the septum, the area most commonly involved in cases of septal infarction. Most perforations occur singularly but multiple perforations have been reported.<sup>17</sup> The size of the perforation is subject to great variation. Perforation of the interventricular septum in combination with rupture of the free ventricular wall is very uncommon.<sup>6, 25, 26</sup>

#### SUMMARY

A case of perforation of an infarcted interventricular septum is reported. The diagnosis was made antemortem. Antemortem diagnosis is possible in this condition if the entity is kept in mind. It is strongly sug-

18. Schlappi, J. C., and Landale, D. G.: Perforation of the infarcted interventricular septum, *Am. Heart J.* 47: 432-436, 1954.

19. Cooley, D. A.; Belmonte, B. A.; Zeis, L. B., and Schnur, S.: Surgical repair of ruptured interventricular septum following acute myocardial infarction, *Surgery*, 41: 930-937, 1957.

20. Osher, H. L., and Wolff, L.: The diagnosis of infarction of the interventricular septum, *Am. Heart J.* 45: 429-440, 1953.

21. Myers, G. B.; Klein, H. A., and Hiratzka, T.: Correlation of electrocardiographic and pathologic findings in infarction of the interventricular septum and right ventricle, *Am. Heart J.* 37: 720-770, 1949.

22. Gould, S. W.: *Pathology of the heart*, Springfield, Ill., 1953, Charles C. Thomas, Publisher.

23. Wessler, S.; Zoll, P. M., and Schlesinger, M. J.: The pathogenesis of spontaneous cardiac rupture, *Circulation* 6: 334-351, 1952.

24. Wright, I. S.; Marple, C. D., and Beck, D. F.: *Myocardial infarction*, New York, 1954, Grune & Stratton, Inc.

25. Snyder, G. A. C.: Spontaneous double rupture of the heart, *Arch. Path.* 29: 976-979, 1940.

26. Carroll, D., and Cummin, S. D.: Double rupture of the heart following myocardial infarction, *Am. Heart J.* 34: 894-898, 1947.



gested by the sudden appearance of a blowing systolic murmur along the lower left sternal border following an acute myocardial infarction. At the same time the general condition of the patient is seen to take a dramatic and sudden turn for the worse. The differential diagnosis has been discussed, emphasis being placed upon the differentiation from rupture of a papillary muscle. Cardiac catheterization may assist in the differential diagnosis in some cases.

The prognosis is invariably poor. Medical treatment is unsatisfactory. Surgical treatment is feasible and holds some degree of promise for the future.

The literature is briefly reviewed.

## ACKNOWLEDGMENT

For his cooperation in this study we are indebted to Armando de Vega, M. D., senior resident in pathology, Birmingham Baptist Hospitals, and instructor in pathology, Medical College of Alabama.

## MIDGET BASEBALL PRESENTS HEALTH HAZARDS

Little league baseball presents a situation that can prove harmful to the health of participating youngsters, say two physicians in the current *Today's Health* magazine.

Drs. Thomas E. Shaffer, Columbus, Ohio, and John L. Reichert, Chicago, said there were many undesirable features in organized midget baseball, but neither disagreed with the underlying theory that the leagues can promote healthy competition.

No informed person will deny that competition is an essential part of every child's education and growth, Dr. Reichert said in the *American Medical Association* magazine.

But it is equally true that competitive drives must be allowed to develop normally and not be overstimulated or suppressed, so that as the child matures, competition and cooperation are balanced forces in his personality, he said. A child can best be developed in respect to posture, coordination, strength and control, and emotional balance by a process of gradual training during the

years of physiological immaturity, not by the forced development of special athletic skills, he said.

With regard to injuries, Dr. Reichert said, pre-adolescent and adolescent children are in a vulnerable age.

During this age there are periods of rapid growth with temporary maladjustments and weaknesses. During these periods, the child is particularly susceptible to dislocations of joints and to bone injuries.

Dr. Shaffer said athletic competition for children is undesirable when organized along adult patterns. In such cases, he said, the unavoidable emphasis placed on winning puts too many pressures on children.

Competitive physical activities for this age group are desirable provided they are conducted with due regard for developmental characteristics such as short attention span, variations in physical skills, and a natural tendency to disregard need for rest and relaxation, he said.

Most of the undesirable features of the little leagues could be eliminated by discontinuing sponsorship of teams by business organizations, by eliminating tournaments except on a community-wide championship schedule, by requiring medical examination at the start of a season and during the season if accident or illness occurred, and by requiring trained, experienced individuals in positions of leadership.

## OB-GYN LOANS NOW AVAILABLE

The American College of Obstetricians and Gynecologists has set up a Higher Education Loan Program (H-E-L-P) to enable resident physicians to complete their training in obstetrics and gynecology. Loans up to \$5,000 will be made to help physicians through their specialty training period and early practice.

H-E-L-P will start operations with an initial working fund of \$36,000, contributed by ACOG and its district organizations. This will be added to through individual contributions and grants if necessary.



# CEREBRAL CLAUDICATION

## Its Surgical Management

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and

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Stroke or hemiplegia was once a complete diagnosis. Implied was an intracerebral lesion—embolic, thrombotic or hemorrhagic. Treatment was supportive and the prognosis depended on the natural course of the disease.

In recent years the attitude toward this condition has changed. It is recognized that a stroke or hemiplegia is a symptom rather than a disease. Intracranial hemorrhages, thromboses and emboli do occur producing strokes. However, other conditions such as brain tumors, vascular malformations and occlusions of the cervical carotid and vertebral arteries produce similar symptoms. For therapy to be effective it must be directed at a specific etiologic agent.

Our interest in this field has been toward lesions producing cerebral ischemia by obstruction in extracranial carotid or vertebral vessels.<sup>1</sup> Increasing the cerebral blood flow in such instances has resulted in gratifying relief of symptoms.<sup>2, 3, 4</sup>

Our material consists of 13 cases that were operated on. Three were explored early in the series without adequate angiographic studies and with negative operative findings. Two died 24 and 48 hours postoperatively. In both, the exploration was done under local anesthesia and seemed to be well-tolerated. Postmortem examination revealed a massive

cerebral hemorrhage in one and cerebral emboli, plus multiple visceral and peripheral emboli, in the other.

There have been ten cases of carotid obstruction, one being bilateral. One unusual case was an occlusion of the internal carotid artery in a seven-year-old boy producing a hemiplegia. This will be reported in more detail elsewhere. Nine cases were of arteriosclerotic obstruction of the carotid arteries and form the basis of this paper.

All were male. The age ranged from 51 to 71, with 6 being in the sixth decade. Each has had associated arteriosclerotic lesions. These lesions have been occlusive disease of the terminal aorta and its branches in 7, previous coronary occlusions in 2, and an abdominal aortic aneurysm in 1.

Symptoms have varied in degree from a transient unilateral weakness to a massive hemiplegia. Monocular blindness has been unusual. Hypertension has been the exception. Headaches and dizziness are frequent. Some patients have had recurrent episodes for periods ranging from a few days to several years. We have been unable to correlate the symptom complex with the pathology found at operation. In some cases relatively minor symptoms have been associated with complete arterial occlusions. Contrariwise, persistent paralysis has been found with only partial obstructions.

Physical examination has been most helpful. The presence or history of paralysis helps to localize the site of the occlusion. In the local search for the occluding lesion palpation, auscultation, and digital occlusion have been used. Palpation is used to detect the magnitude of pulsation of the common carotid and internal carotid externally and along the tonsillar fossa, and of the radial and axillary arteries. In at least 2 individuals

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1. Fisher, M.: Occlusion of the Carotid Arteries. Further Experiences, *Arch. Neurol. and Psychiat.* 72: 187, 1954.

2. De Bakey, M. E.; Crawford, E. S.; Cooley, D. A., and Morris, G. C.: Surgical Considerations of Occlusive Disease of Innominate, Carotid, Subclavian, and Vertebral Arteries, *Ann. Surg.* 149: 690, 1959.

3. Lyons, C., and Galbraith, G.: Surgical Treatment of Atherosclerotic Occlusion of the Internal Carotid Artery, *Ann. Surg.* 146: 487, 1957.

4. Rob, C., and Wheeler, E. B.: Thrombosis of Internal Carotid Artery Treated by Arterial Surgery, *Brit. Med. J.* 2: 264, 1957.



with thin necks a plaque has been easily and definitely palpable at the bifurcation of the common carotid.

Auscultation has been a helpful maneuver. Murmurs heard only over the internal carotid have been present in 7. In 2 patients murmurs have been heard at the base of the neck and have extended along the carotid and subclavian arteries. Though not universally present even with partial obstructions, the presence of a murmur is evidence of underlying disease. Auscultation of the neck is a simple, atraumatic procedure which may pay large dividends in selected cases.

Intermittent claudication following activity of an extremity has been recognized for years as a sign of vascular disease. In this instance the pain is caused by a relative ischemia caused by increased demand of the muscles for oxygen. Apparently such increased demand is not a feature of cerebral activity and the blood flow is relatively constant. By carotid compression, unilateral or bilateral, the blood flow can be diminished and a relative ischemia produced. As the brain is extremely sensitive to oxygen deficits the effects can be immediately observed. These have varied from syncope to increasing paralysis or only tingling in the affected limb. We have chosen to call this sign passive cerebral claudication. This maneuver has proved extremely valuable. In all our surgical cases compression of the affected artery has caused no symptoms, while compression of the unaffected (good) artery has resulted in cerebral claudication of some degree.

The single most important diagnostic aid is that of carotid or vertebral angiography. The procedure has the great advantage of demonstrating not only cervical but intracranial lesions. The procedure is not without hazards but is our most accurate means of localizing the site and type of problem.

The most common surgical procedure has been exploration of the area of bifurcation of the common carotid. This has been extended to exploration of the origin of the vertebral arteries of the same side.

Bypass procedures were done in 3 cases. These were from common to internal carotid artery in two and from subclavian to internal carotid in one. In the light of our present knowledge, thromboendarterectomies, which were done on the other 6 cases, would have been done in both of the former cases. In our small group of cases this has been a very satisfactory procedure.

The subclavian to internal carotid bypass was done in a case with complete thrombosis of the common carotid artery. The other bypass procedures were done with partially occluding clamps in an attempt not to shut off the cerebral circulation. Since we have used the cerebral claudication concept, that occlusion of the bad artery did not produce symptoms, we have not hesitated to occlude the common, internal and external arteries on the obstructed side. Such occlusion is necessary in the performance of endarterectomies. The occlusion time has varied between 17 to 35 minutes. There have been no residual symptoms from the occlusion.

The findings at surgery are usually obvious. A large plaque is present at the bifurcation of the common carotid extending for 1 to 2 cm. into the internal carotid. Usually there is some extension into the origin of the external but to a much less degree. The internal carotid distal to the plaque has been soft, with comparatively normal walls even in those cases with complete obstruction and thrombosis. The walls of the common carotid have showed variable degrees of arteriosclerosis. Except for one common carotid which was completely thrombosed there has been an adequate lumen of this vessel.

After the three carotid vessels are dissected free, they are occluded by vascular clamp or tapes for a five minute test period. If no symptoms ensue, the clamp is removed for another 5 minute period and then reapplied. A vertical incision over the plaque is made and a thromboendarterectomy is done. The various vessels are released at times to flush



out clots and, in the case of the internal carotid, to determine back flow. Heparin is given intravenously before the vessels are occluded and heparin solution is used to flush out the operative area. After all plaques have been removed the arteriotomy is closed with a continuous suture of 5-0 arterial silk.

*Case 1:* J. E. C. is a white male, 51 years old. In 1956 he suffered an acute myocardial infarction with good recovery. One month before admission, dizziness and tinnitus developed, associated with numbness and weakness of the right arm and leg. After a short period of hospitalization he was put on anticoagulants and sent home. Episodes of left hemiparesis, lasting 5 to 60 minutes and occurring several times daily, continued. The patient was fairly well between these episodes.

*Examination:* Blood pressure 150/110. The left carotid pulse was weaker than the right. A systolic murmur was present on the left. Carotid compression was not done. A left carotid angiogram revealed a plaque at the bifurcation of the common carotid with post stenotic dilatation of the internal carotid (Fig. 1).

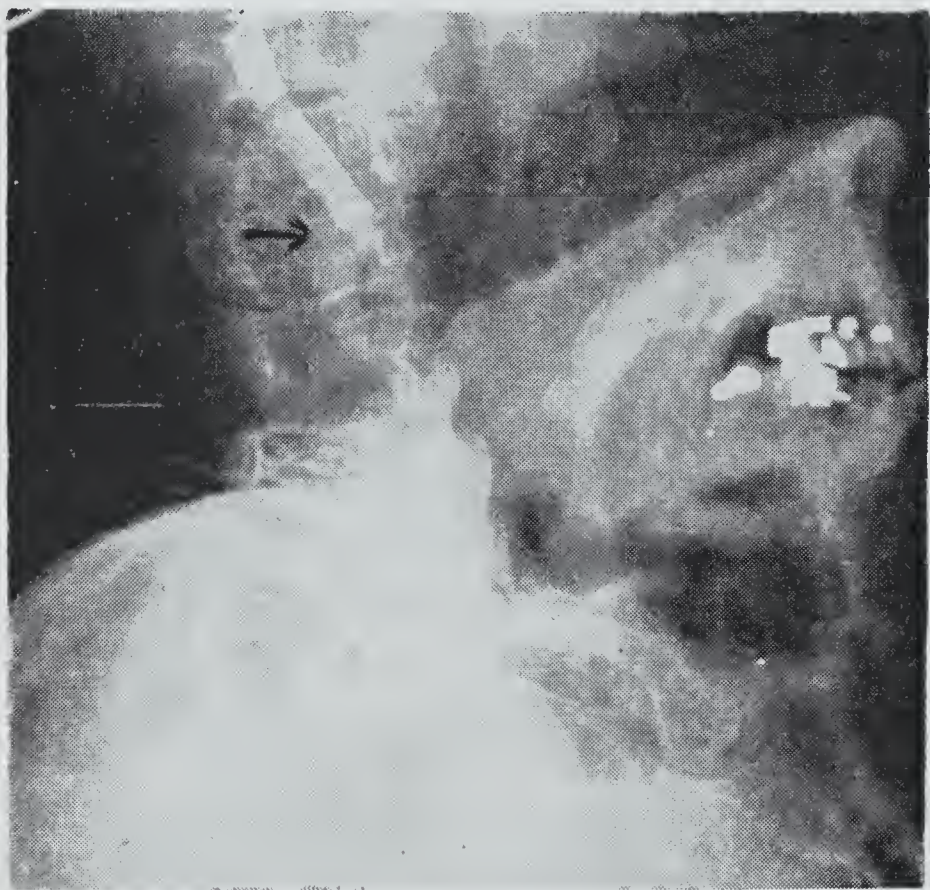


Figure 1. Left carotid angiogram. Arrow denotes stenotic area in left internal carotid artery.

At operation 5-6-57 a large plaque in the proximal portion of the internal carotid was found. An end to side nylon graft between common and internal carotid was done.

Except for one transient episode of numbness, his convalescence has been uneventful. He has returned full time to his job as salesman. Thirteen months later I had the pleasure of operating on him again, this time for fissure in ano.

*Case 2:* M. A. B., male, 59, mechanic. Three years ago he blacked out after walking a long distance. In June 1957 he became dizzy and blacked out but quickly recovered. On June 27, 1957 he developed a headache, partial paralysis of the right arm and leg and slurring of speech. He was put on anticoagulants with partial improvement but weakness of the right arm and leg persisted.

Examination showed a diminished pulsation of the left internal carotid artery with a systolic murmur. Angiograms were of poor quality but suggested a plaque in the internal carotid artery.

The left carotid was explored Jan. 13, 1958. A large plaque was found at the bifurcation of the common carotid, with a palpable thrill in the internal carotid. A bypass graft between common and internal carotid arteries was done using a section of saphenous vein. At the conclusion of the procedure the internal carotid was pulsating normally and the thrill was no longer palpable.

Improvement was noted immediately post-operatively. The paralysis cleared and he could now use his trigger finger. The tight feeling in his head has disappeared. Improvement has persisted.

*Case 3:* A. C., aged 51, is a white male construction superintendent who had blackout spells for many years. These would begin by tingling of the left hand and were followed by syncope of short duration with complete recovery. Four weeks before admission a massive left hemiplegia occurred in Buffalo, New York. Marked residual paralysis with slurring of speech and drooling persisted. The patient also gave a history of intermittent claudication of legs, and examination revealed diminished pulsations of the lower limb vessels.



Examination of the carotid vessels showed a loud murmur over the left (good) carotid. No murmur was present on the right. Compression of the right carotid produced no symptoms. Compression of the left carotid caused immediate syncope. A right carotid angiogram showed no filling of the internal carotid artery (Fig. 2).

At surgery there was a large plaque at the bifurcation of the common carotid, with extension into the internal. A superimposed thrombus caused complete obstruction of the internal carotid. A thromboendarterectomy was done. The internal carotid was completely occluded. Distally the vessels were soft and pliable and old black blood seeped from the intracranial portion. The vessel was irrigated with heparin and heparin was continued in the postoperative period.

There was considerable but not dramatic improvement while in the hospital and after discharge. Despite considerable weakness of the left arm and leg he was able to hunt squirrels that fall.

In February 1959 the patient had begun to notice occasional dizzy spells. His family felt that his personality had changed.

Examination now showed the left carotid murmur to be softer and less intense than the year before. Compression of the left carotid for long periods caused only slight dizziness where last year this had produced immediate syncope. Bilateral carotid angiograms demonstrated a narrowing of the left internal carotid at the bifurcation (Figures 2 and 3). There was no filling of the right internal carotid.

On March 25, 1959, under local anesthesia, the left internal carotid was explored. The artery was occluded for 5 minutes without changes in the patient's condition. After the clamp had been released for 5 minutes, it was reapplied and a thromboendarterectomy was done. A hard, almost completely occluding plaque was removed. Convalescence was without incident. No objective change in the patient's condition could be detected. His family was of the opinion that his personality became much more normal after the latter procedure.

He has recently resumed work as a construction superintendent on a large project in northern Canada.

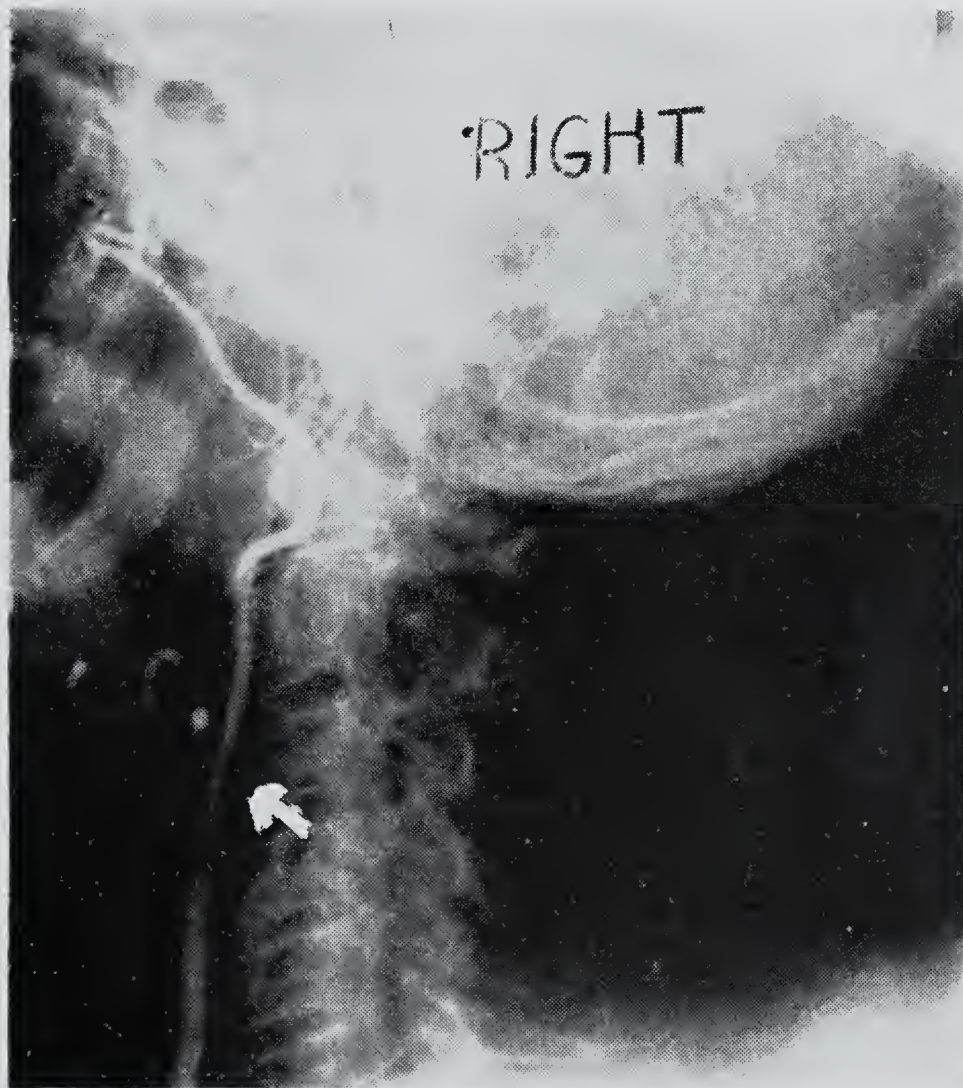


Fig. 2. Identical right angiograms in 1958 and 1959. Arrow denotes site of origin of internal carotid with complete occlusion.

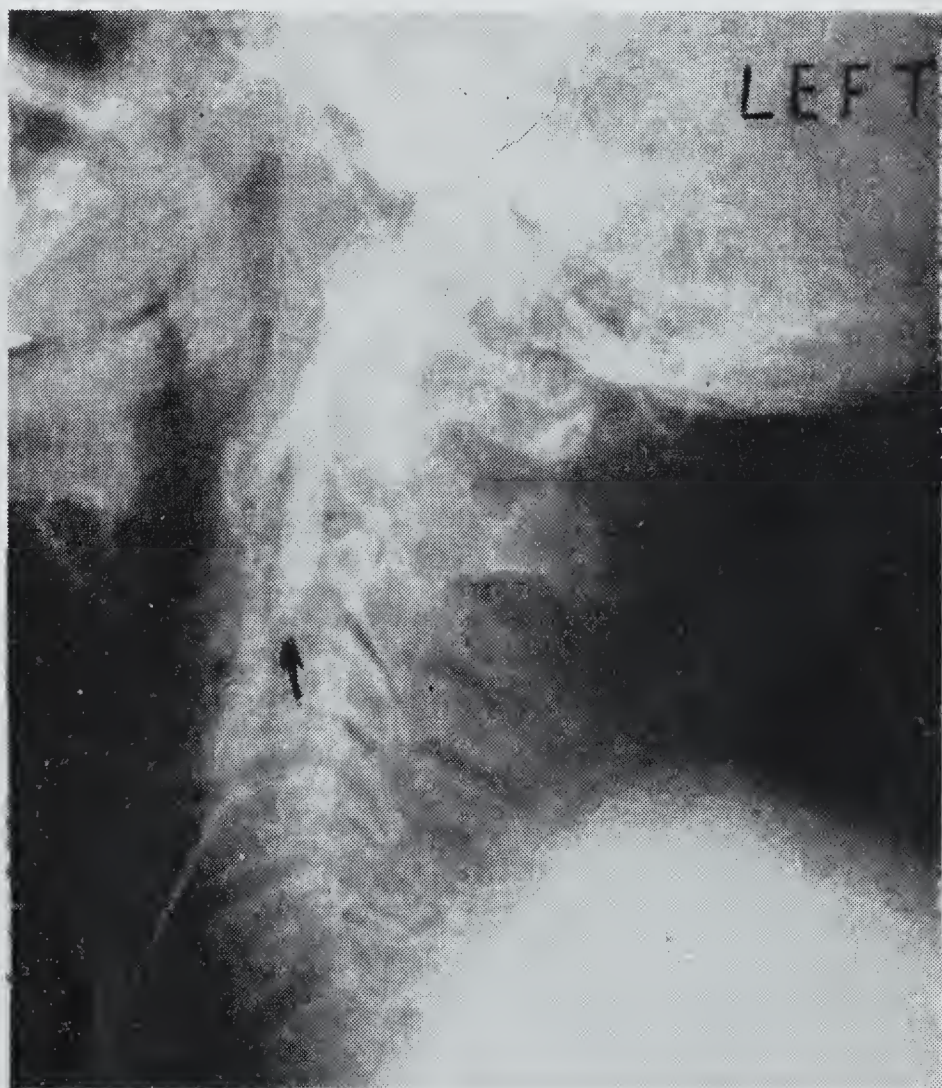


Fig. 3. Left carotid angiogram, with marked narrowing of first portion of internal carotid artery.



*Case 4:* F. P., male, 71, salesman. In 1952 a coronary occlusion was diagnosed. In 1956 a slight stroke occurred involving the right arm and leg. At that time his blood pressure rose to 250 mm. but had since returned to more normal levels. The paralysis gradually cleared but the patient's family noted that his memory was poor. Intermittent claudication of the legs had been present for several years. For the past four to five months temporary episodes of "swimming-headedness," tingling of the left side of the face, and numbness of the right arm had been noted.

Examination showed no murmurs and a blood pressure of 160/90. There was questionable widening of the abdominal aorta.

At operation on July 24, 1958 a thrombosis of the common carotid artery from aorta to bifurcation was found. The internal carotid was soft, nonpulsatile and had a very poor back flow when opened. A bypass graft from subclavian to internal carotid artery was done.

Postoperatively he seemed somewhat improved and was quite active. On Dec. 25, 1958 he died suddenly of a rupture of the "questionable" aortic aneurysm. At autopsy the graft was found thrombosed.

*Case 5:* W. B. H., male, 55, who has had intermittent hypertension for 7 years, with readings as high as 210 mm. systolic. Several times he felt like he was having a facial stroke but never had muscular weakness. In the past several months has had transient episodes of facial, right arm weakness and gunbarrel vision. He has noted difficulty in writing and in memory. A "swishing" sound has been heard in his left ear. There is a history of intermittent claudication of the right calf.

Examination. There were loud murmurs at the base of the left neck extending along the subclavian artery. Blood pressure was 160/90 in right arm and 130/90 in left arm. Carotid pulsations were equal. Left carotid compression produced no symptoms. Occlusion of right carotid caused syncope, with convulsive motions and visual changes.

Angiograms were unsuccessfully attempted.

Exploration of left carotid and vertebral arteries was carried out on 11-6-58. The vertebral was pulsating normally. There was no evidence of obstruction. There was a large plaque at the bifurcation of the carotid, with no pulsation of the internal carotid though the distal portion of this vessel was soft. A thromboendarterectomy was done removing

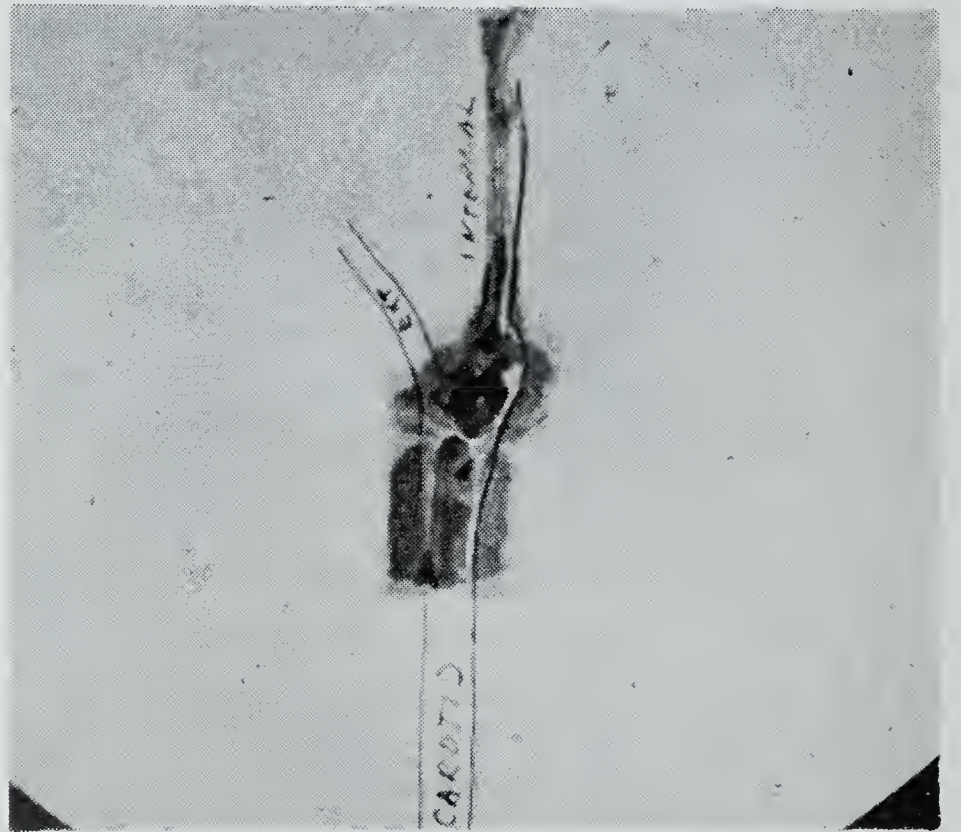


Fig. 4. Operative specimen in Case 5. The large occluding plaque at the bifurcation is seen with a long distal thrombus extending up the internal carotid.

a large plaque plus a recent thrombosis (Fig. 4). This extended approximately 2 inches into the internal carotid. After its removal some backflow occurred. The patient was placed on heparin postoperatively. He has returned to his former activity and has had no further spells.

*Case 6:* J. N. P. is a 58-year-old white male. In 1955 he developed intermittent claudication of the right thigh. Aortograms showed sclerotic changes of the distal aorta with occlusion of the right iliac artery. On 1-2-59 he noted weakness and numbness of his right leg and arm. On getting out of bed he fell. He was admitted to the hospital and his symptoms improved rapidly, clearing in approximately 36 hours.

Examination showed diminished pulsation of the right internal carotid. Murmurs were



present at the base of the neck and were transmitted along both carotids. Compression of the left carotid caused dizziness, with weakness of the left arm and leg. Compression of the right carotid caused slight diminution of vision. A right carotid angiogram showed stenosis at the bifurcation of the common carotid (Fig. 5).



Fig. 5. Right carotid angiogram in Case 6. A stenotic area in the proximal internal carotid can be seen.

At exploration a normal right vertebral artery was found. There was a large plaque at the bifurcation of the common carotid. Thromboendarterectomy produced a large atherosclerotic plaque with a superimposed recent thrombosis (Figures 6 and 7). A good backflow from the internal carotid was present. Anticoagulants were continued in the postoperative period.

Convalescence was uneventful except for a wound hematoma. Cerebral symptoms have cleared and he is back at work.

*Case 7:* R. H., male, 71, unemployed. In December 1958 he developed a left hemiplegia. This apparently was complete but he partially recovered after a few days. Since that time he has had recurrent minor episodes, with dizziness and temporary increases in the degree of paralysis.

Examination showed a thin, elderly male with a partial spastic paralysis of his left arm and leg. All pulses of the right leg were absent. Both carotid arteries were prominent, and a firm enlarged area could be felt at the right bifurcation. There was a soft murmur over the right internal carotid artery and a loud blowing murmur over the left. Bilateral carotid angiograms showed narrowing of both internal carotid arteries, with most

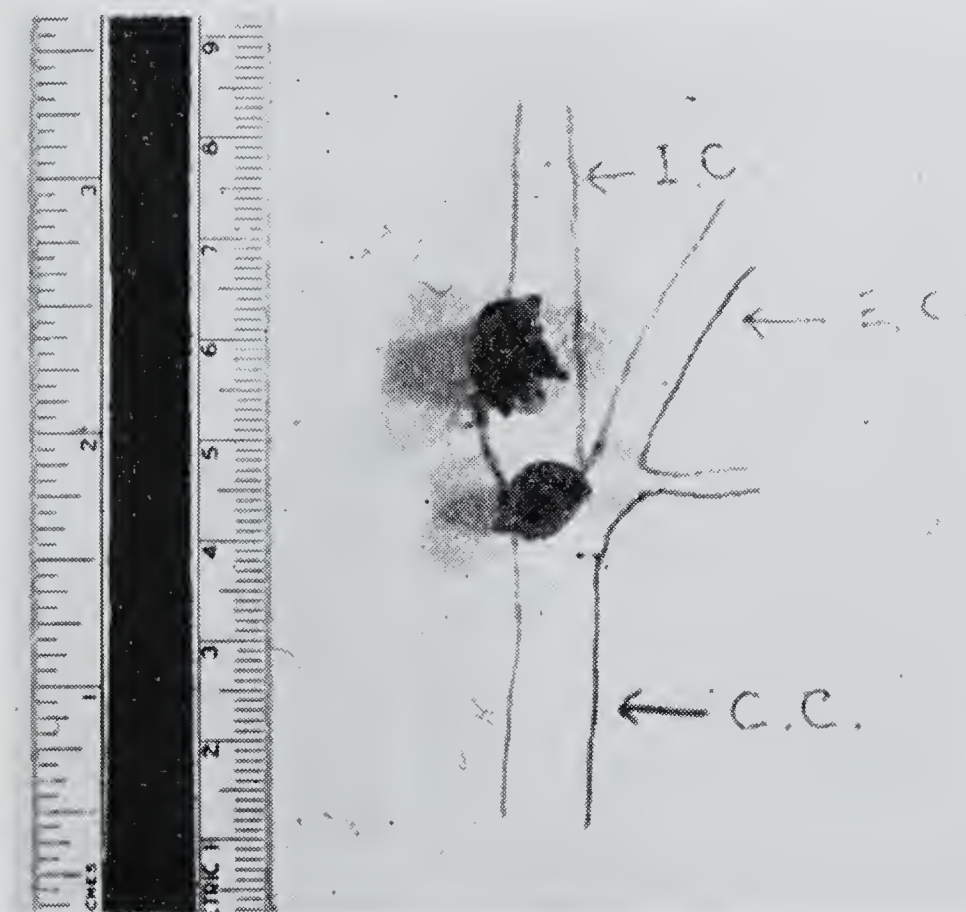


Fig. 6. Operative plaque removed by thromboendarterectomy in Case 6.

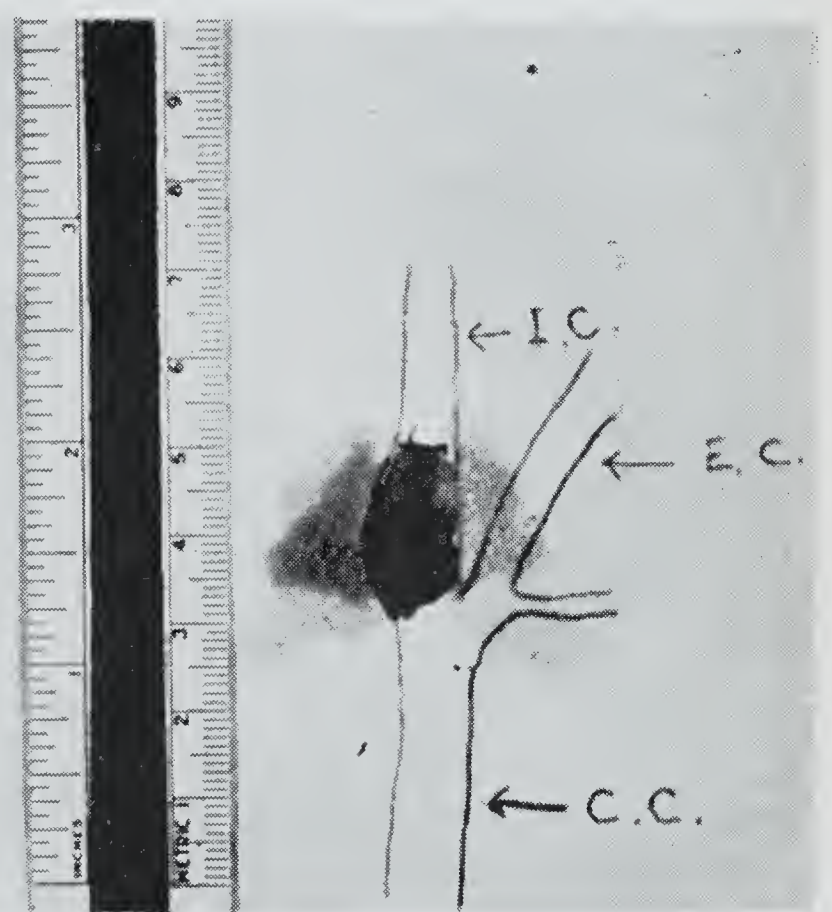


Fig. 7. Cross section of operative specimen in Case 6. Darker inner portion of specimen represents recent thrombus causing almost complete occlusion.





Fig. 8.



Fig. 9.

Right carotid angiograms showing marked narrowing in region of bifurcation of common carotid in Case 7.

narrowing present on the right (Figures 8 and 9).

On July 2, 1959 a thromboendarterectomy of the right internal carotid artery was done. Large, almost occluding, plaques were removed. Postoperatively the patient was continued on heparin. Forty-eight hours later he began to bleed. Reexploration of the wound revealed a bleeding point on the suture line which was closed with a single suture. The next day a tracheotomy was done because of a large cervical hematoma. Subsequent convalescence was uneventful.

Improvement has been partial but considerable. Motion of the arm and leg has greatly improved. In particular, disagreeable numbness and paresthesias of the left arm and hand have cleared.

*Case 8:* F. H., male, 56, mechanic. In 1952 he had an episode of left shoulder and arm pain. This was diagnosed as a posterior myocardial infarction.

For 2 or 3 years he has noted transient spells in which he temporarily lost sight in one eye. These were usually associated with

dizziness. Three weeks before admission he experienced a severer spell, with dizziness and weakness in right arm and hand and difficulty in swallowing. These symptoms cleared after several hours.

He has noted intermittent claudication for several years and impotence for 3 years.

Examination of the carotid vessels showed a loud bruit over the mid-portion of the left carotid. Pulsations over the left internal carotid arteries were diminished. Compression of the left carotid artery produced no symptoms but momentary compression on the right caused severe dizziness and a feeling that he was going to black out. Blood pressure was 130 in both arms. Murmurs and diminished pulsations were present over both femoral arteries.

Left carotid angiography showed marked narrowing of the left internal carotid artery at the level of the bifurcation of the common carotid (Figures 10 and 11).

On July 16, 1959 a thromboendarterectomy of the left internal carotid artery was done under local anesthesia. A large plaque con-



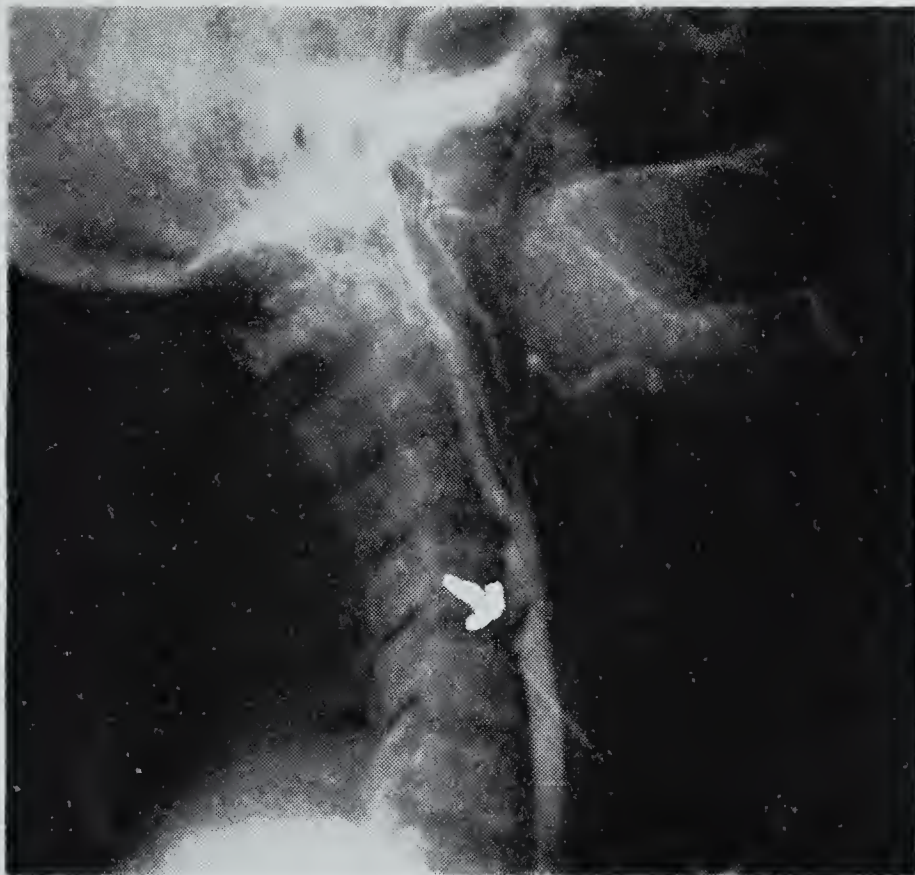


Fig. 10.

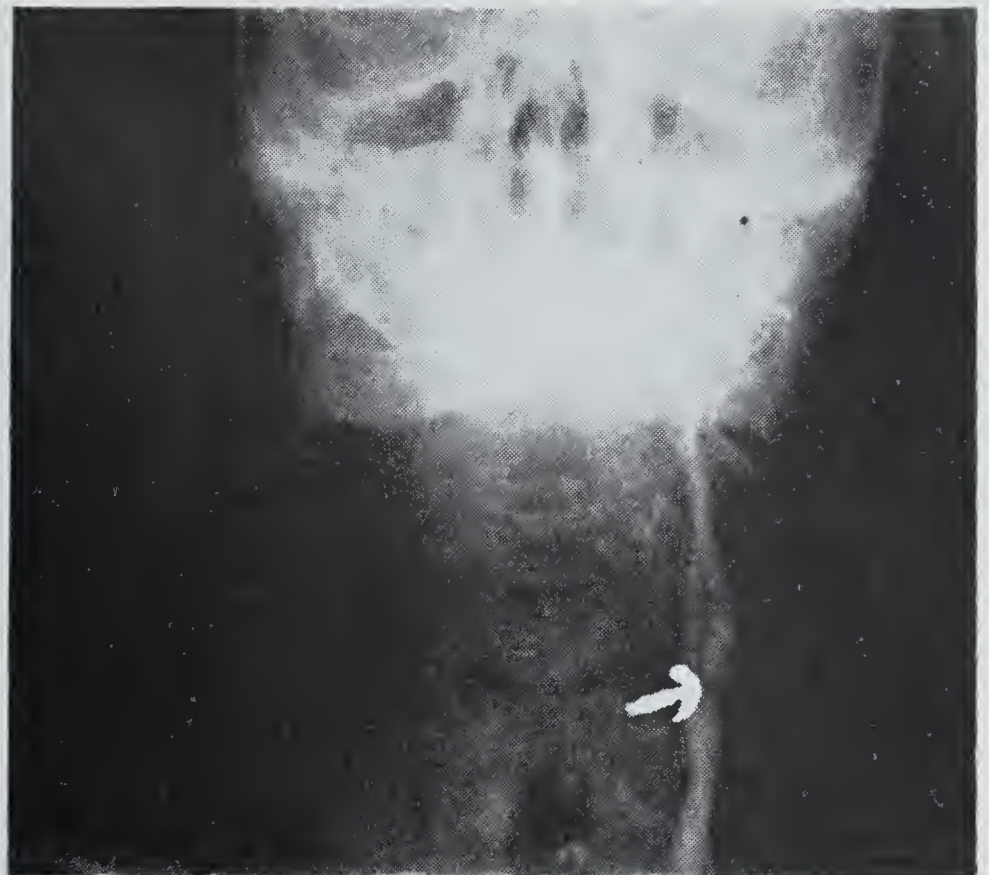


Fig. 11.

Left carotid angiograms in lateral and anteroposterior projections in Case 8. Both demonstrate marked narrowing of the proximal portion of the internal carotid.

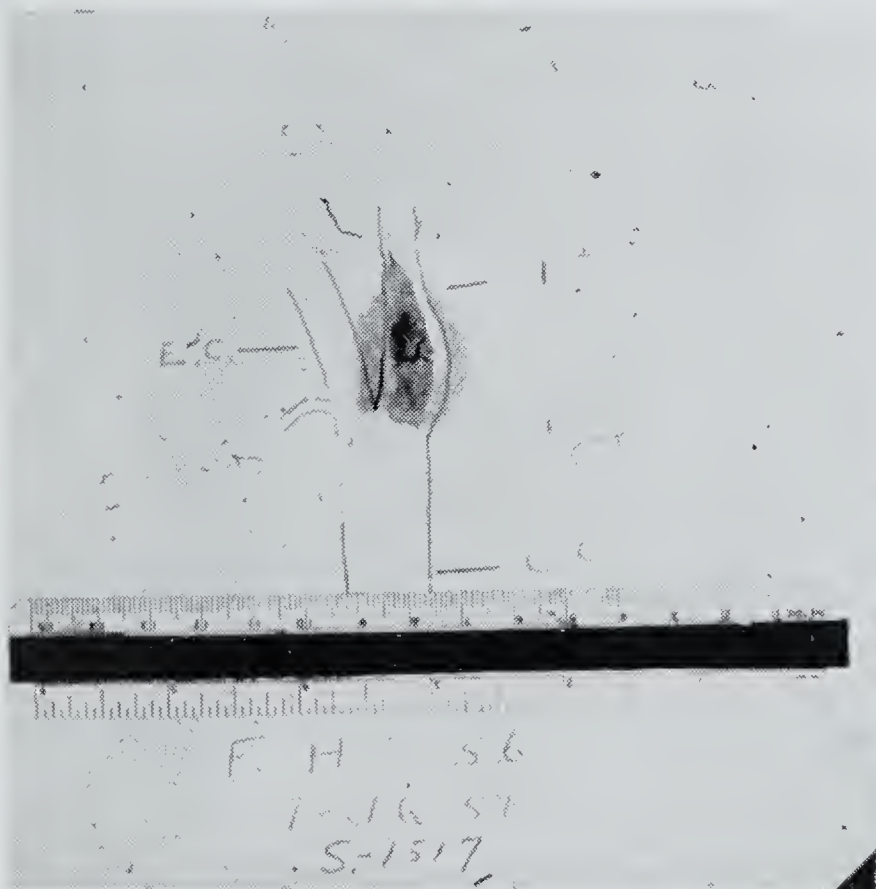


Fig. 12.

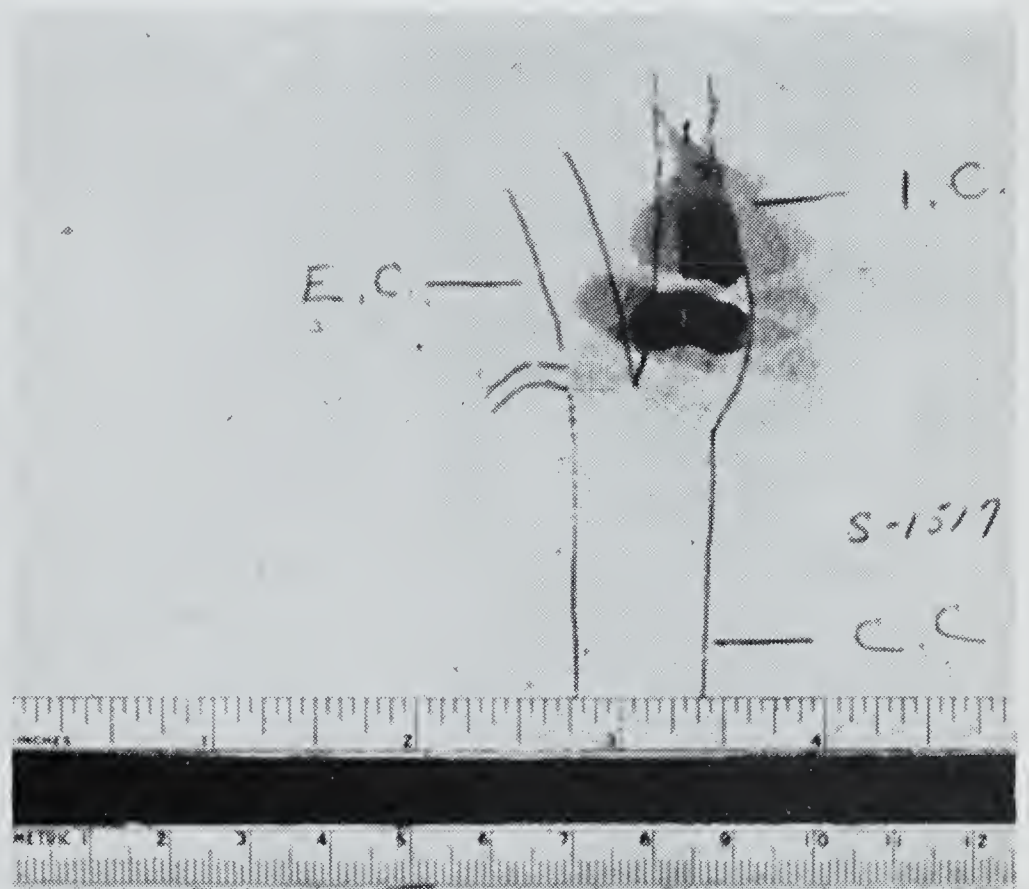


Fig. 13.

Operative specimen removed by thromboendarterectomy in Case 8. Fig. 12 shows plaque as removed. Fig. 13 demonstrates dark central area of recent thrombosis.

taining only a pinpoint lumen was present (Figures 12 and 13). In the postoperative period the patient complained of a throbbing headache over his left hemicranium. This gradually cleared. He has been continued on anticoagulants. No symptoms have recurred and he is back at work.

**Case 9:** H. G. T., male, 68, retired. In 1956 this patient had a coronary occlusion. He had been on digitalis and antihypertensive medication since that time. On July 14, 1959

a left hemiplegia, associated with difficulty in speaking, developed. This gradually cleared after 3 or 4 days. On August 3, a second episode occurred involving the left shoulder and arm, with pain in the left ear and cervical region. This had not completely cleared. Pain in the above areas and mild spasticity of his left arm persisted.

Physical examination showed good pulsations of both carotids. At the base of the neck loud murmurs were present extending





Fig. 14. Right carotid angiogram in Case 9. There is marked narrowing of internal carotid artery just above its origin.

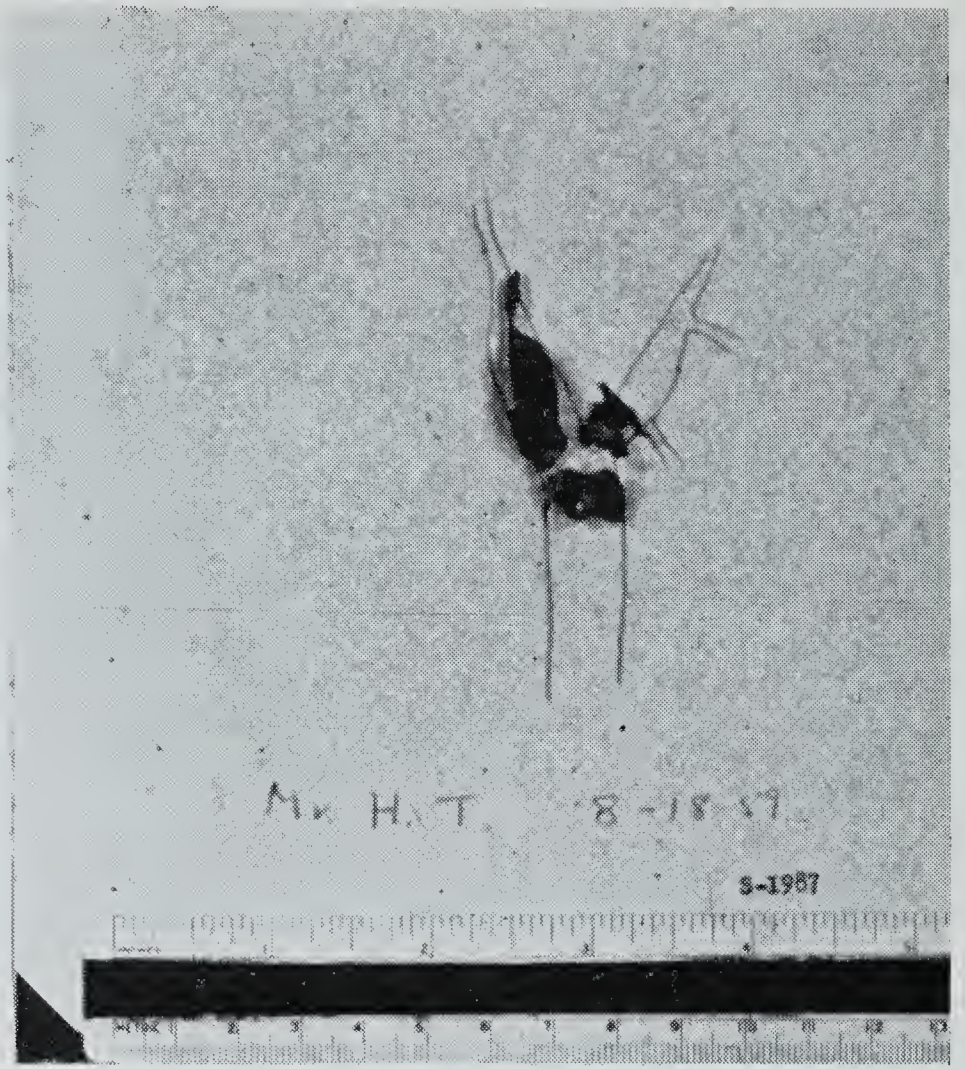


Fig. 15. Operative specimen in Case 9 removed by thromboendarterectomy.

along both carotids. There was definite intensification of the murmur over the midportion of the right carotid. Angiograms showed marked stenosis of the internal carotid one centimeter distal to the bifurcation (Fig. 14).

On August 19, 1959 a thromboendarterectomy of the right internal carotid artery was done. The obstructing lesion consisted of arteriosclerotic plaques, with a rather recent superimposed thrombus which, fortunately, had not completely obstructed the lumen (Fig. 15).

Convalescence was uneventful.

Improvement was noted in motion and strength of the left arm and leg while the patient was still on the operating table. The discomfort in the left ear and neck similarly cleared dramatically. He states that the arm is not so strong as before his first stroke, but this is not obvious on objective examination.

#### RESULTS

In the nine cases with positive findings, six had only partial obstruction, with patent internal carotid arteries. Four have had complete remission of symptoms and have returned to their previous activities. One was

relieved of his unilateral weakness and numbness of the extremities but has not been able to return to full-time work. One is considerably improved after a hemiplegia persisting for 7 months preoperatively.

In all of these cases the preoperative murmurs have disappeared and the effects of digital compression of the contralateral carotid have cleared or greatly diminished.

Three cases had completely occluded vessels. In only one instance was the internal carotid distal to the obstruction cleared enough to produce a fairly good back flow. He is back at work and has noted considerable improvement. Both of the other cases were proved to be occluded several months later. In both there had been definite subjective and objective improvement. In one patient the improvement in cerebral blood flow was enough to tolerate a thromboendarterectomy of a partially stenosed left internal carotid in the face of complete occlusion of the right internal carotid.

This small series shows clearly that early cases, before complete occlusion has taken place, will yield excellent results. Our follow-up period is limited, the earliest case



having been done slightly more than 2 years ago. In the favorable group we have had no evidence of recurrent symptoms.

#### DISCUSSION

Arteriosclerosis is a generalized disease. Its effects may be localized with large plaques and vascular occlusions of single vessels. The occurrence of this process in the arteries to the brain is one of the causes of strokes. Diagnosis can be made, largely in the office or at bedside, by careful examination directed at the carotid arteries. Auscultation, palpation and the production of passive cerebral claudication are of help in localizing the process. Angiograms are of greatest help in accurate localization of the lesion.

Our therapy has consisted in removing or bypassing the obstruction. The above discussion has been confined in large part to chronic or long-standing conditions. It is probable that similar procedures should be applied to more acute strokes as early emergency procedures.

Time is also of importance in chronic lesions. The best results have been obtained in those cases with partially occluded internal carotid arteries and a good back flow. As in vascular surgery in other locations, results in cases with poor run off are usually poor. Our indications for surgical exploration have been symptoms of cerebral ischemia, associated with evidence of an occlusive vascular lesion by physical examination or angiogram. We now feel that every person having a stroke is a candidate for a complete anatomic diagnosis. Search for an occluding or other specific lesion should be carried out and therapy directed in an attempt to return the patient to normal.

#### ADDENDUM

Since preparation of this paper, six additional patients have been explored. These included four patients with carotid obstruction, bilateral in one. The other two cases were proximal obstructions of the great vessels. The first was an obstructing plaque of the right subclavian proximal to the origin of

the vertebral. This was thromboendarterectomized. The second was a case of "pulseless disease" in a young woman, treated by a bifurcation graft from the arch of the aorta to the right innominate and left subclavian.

The results have been in keeping with those recorded in the above paper. They confirm our impression that this is a most valuable procedure, and should be much more widely used.

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#### POPULAR SEDATIVE CAUSES PROFOUND JUDGMENT ERRORS

A widely used barbiturate produces profound errors of judgment when taken in average doses, two Harvard researchers said in a recent issue of the Journal of the American Medical Association.

Gene M. Smith, PH.D., and Henry K. Beecher, M.D., said the striking judgment distortion produced by the barbiturate is particularly important from the practical standpoint.

One can only wonder how many accidents occurring each year on the highway, in industry, in the home, and elsewhere are due in part to impairment produced by barbiturates, analeptics (stimulants), tranquilizers, and other drugs given to ambulant patients, they said.

The widespread use of these medicaments by persons whose decisions, judgments, and behavior affect their own welfare and the welfare of others makes further quantitative assessment of the mental and behavioral effects of these agents a matter of practical importance.

The researchers studied the effects of a typical barbiturate, secobarbital, and amphetamine, a stimulant, on 15 college men swimming time trials alone and in groups of three. Each swimmer was a highly trained athlete in mid season form who was skilled in estimating his performance time, they said.

Nevertheless, they found that swimmers given secobarbital evaluated their speed in solo trials as significantly better than usual when their performances actually were significantly slower.



## PODIATRY AND DIABETES MELLITUS

STANLEY T. FRANK, D. S. C.

GEORGE C. CLARK, D. S. C.

and

S. RICHARDSON HILL, M. D.

Birmingham, Alabama

Patients with diabetes mellitus are more prone to foot infections and gangrene than non-diabetic patients. It is well established that control of infection is essential for proper control of diabetes and vice versa. Finally, a small amount of time spent with the diabetic patient in preventing foot problems can often save a foot or a leg and thus maintain useful productive citizens as opposed to the loss of such members of the body with resulting dependent long-term welfare patients.

A knowledge of the three principles mentioned heretofore for the care of the diabetic patient helps to discharge the physician-patient relationship. The principles are of significant humanitarian consideration as well. However, for the purposes of this presentation, emphasis should be placed not on physician responsibility nor the humanitarian motivation but rather a third factor, and that is the one of the consideration of the tremendous economic importance to the state and the country in rendering such care to diabetic patients.

Because of poorer education, sociologic problems and other environmental circumstances, the indigent patient with diabetes is particularly susceptible to problems of the feet. With such knowledge in mind, the Diabetes Clinic of the University Hospital and Hillman Clinic, the University of Alabama Medical Center, believed that it was essential to expand its services to include proper supervision of foot problems in patients with

diabetes. This belief was implemented by the invitation to well qualified and recognized podiatrists to establish a Podiatry Clinic in collaboration with the Diabetes Clinic of the University Hospital.

The original invitation was very well received. As a result, an active, effective Podiatry Clinic is now in operation, working under the direction of the Chief of the Diabetes Clinic of the Hospital. In so operating, the Podiatry Clinic has the following objectives:

1. To instruct diabetes patients in the proper care of their feet and to explain the inherent complications and dangers of various foot problems for the diabetic. In these instructions there is an emphasis on the affirmative as well as the negative. The patient is alerted as to what should be done as well as what should not be done. For example, the patient is advised to avoid the use of strong chemicals, such as salicylic acid preparations, and also to avoid any do-it-yourself bathroom surgery on corns, nails, and other foot conditions.

2. To treat any foot problem called to the podiatrist's attention by a physician or patient attending the Clinic. To treat conditions which are already present as complications of the diabetes, such as infections or ulcerations. To treat particularly conditions which are potentially dangerous, such as badly inverted toenails which could become infected if the patient were to attempt self-medication.

3. To examine as many new patients admitted to the Diabetes Clinic as is possible. To reexamine all patients, insofar as possible, every six months. The latter is important for many diabetic patients acquire ulcerations and infections of which they are unaware because the condition is painless—

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the absence of pain usually arising as a result of diabetic neuropathy.

Over the months of each operation, the most common foot problems seen in the Podiatry Clinic of the Diabetes Clinic are:

1. Infected heloma (corn).
2. Infected tyloma (callus).
3. Ulcerations at points of excessive weight bearing.
4. Uncontaminated ulcerations.
5. Infected ingrown toenails.
6. Painless inverted toenails.
7. Thickened toenails (particularly on the great toes) which have pressure ulcerations underneath.
8. Mycotic infections with secondary bacterial infections.
9. Localized cellulitis with no apparent point of entry.
10. Diabetic neuropathy with its various manifestations in the feet.

After a period of careful observation and evaluation it is possible to report that the establishment and operation of a Podiatry Clinic has aided greatly the mission of the Diabetes Clinic in the care of the diabetic patient. It should be emphasized, of course, that the treatment and control of the diabetes supersedes any local foot treatment. If the patient's blood sugar is then within normal limits, treatment and cure of foot problems are greatly facilitated. Finally, it is important to maintain close liaison at all times with the Surgical Clinic for Peripheral Vascular Diseases for more complicated problems. It can be concluded, however, that consideration should be given to the inclusion of podiatrists in the care of the diabetic patient to work under the direction of the physician in the prevention and correction of foot problems of non-surgical nature.

A monthly publication which, for the first time, focuses upon major common concerns of two great professions—medicine and the law—will be launched this month as a service to 161,000 physicians.

"Legal aspects have become so entwined in the healing arts that no longer is it possible to regard medicine as apart from the law," states an "Editor's Blueprint" published in the first issue of *Medicolegal Digest*. Also presented are articles—some specially-written and others selected and condensed from leading law journals—on artificial insemination, third party medicine, the doctor as a witness, and medicolegal aspects of space flight.

A dozen authorities in law, medicine, and hospital administration comprise the editorial board of the new journal, which is being distributed to family doctors and specialists in private practice. The board members are:

Ray E. Brown of Chicago, superintendent of the University of Chicago Clinics and past president of the American Hospital Association.

Russell S. Fisher, M.D. of Baltimore, chief medical examiner of the State of Maryland.

August H. Groeschel, M.D. of New York City, associate director for professional services of New York Hospital.

Manfred S. Guttmacher, M.D. of Baltimore, chief medical officer of the Supreme Bench of Baltimore.

Marshall Houts, LL.B. of Woodland Hills, Calif., editor-in-chief of the journal, *Trauma*.

Charles P. Larson, M.D., of Tacoma, Washington, chairman of the Council on Forensic Pathology of the American Society of Clinical Pathologists.

Alan R. Moritz, M.D. of Cleveland, director of the Institute of Pathology of the Western Reserve School of Medicine.

Andrew A. Sandor, M.D., LL.B. of Alhambra, California.

LeMoyne Snyder, M.D., LL.D. of Paradise, California, medical consultant.

Russell F. Staudacher of Chicago, publisher of *The New Physician*, journal of the Student American Medical Association.

Carl Erwin Wasmuth, M.D., LL.B., of Cleveland, from the Department of Legal Medicine, Cleveland Marshall Law School.

Alexander S. Wiener, M.D. of Brooklyn.



# AUTOMATIC DEVICE FOR TYING THE UMBILICAL CORD

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and  
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Bleeding from the umbilical stump has always been a problem. Although many methods of cord ligation have been tried, all have faults, as evidenced by the fact that no one method is in universal use. The need for a simple, absolutely secure ligation technic was forcibly brought to our attention by the exsanguination of a healthy term infant whose cord had been tied with the conventional cotton tape.

During the year 1957, close observation was made of 400 private and clinic babies whose cords were ligated with cotton cord ties; of these 108 required retying of the cord because of bleeding.

## METHOD

In our search for a simple, secure method of ligation of the umbilical cord, the following criteria were adopted:

- (1) It must provide immediate and permanent hemostasis.
- (2) It must prevent cord contact with contaminants from the operator's hands.
- (3) It must not serve as a culture medium for pathogenic organisms.
- (4) It must be adaptable to cords of all sizes.
- (5) It must allow rapid completion of ligation.
- (6) It must enable the operator to complete the tying with one hand.
- (7) It must be simple to prepare and easy to operate.

In 1940, Kanner described a method of ligating the umbilical cord with a rubber band. Since then, Krakower and Nabolotny and Nelson, have reported various methods of cord ligation using rubber bands. Salvatore, in 1957, and Lancaster, in 1958, devised instruments to use a single piece of latex tubing.

In 1957, Hamilton described an instrument by which a multilooped rubber band could be pushed off with the fingers around a loop of cord. However, none of these processes met all of the criteria listed.

With these criteria as our guide, a device was developed which places a piece of 1/16" x 3/16" latex rubber tubing, 3/16" in length, around the umbilical cord. This instrument consists of 2 pieces of steel pipe, 2 springs, a hook, and a trigger (Fig. 1).

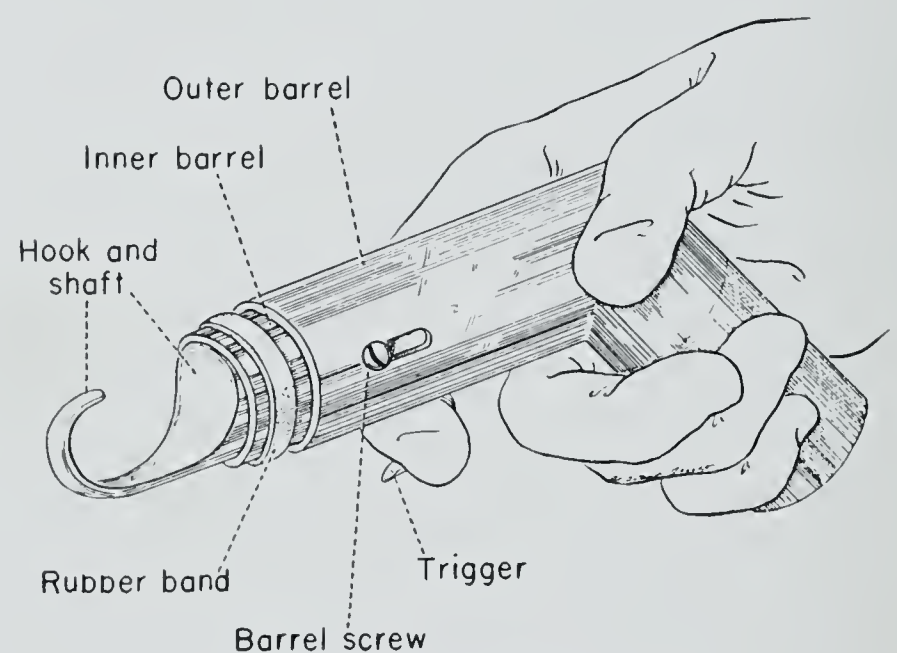


Fig. 1. Tying device prepared for ligation procedure.

A conical metal loader was made to fit over the end of the inner barrel (Fig. 2). The latex bands and loaders are soaked in zephiran (benzalkonium chloride) 1:1000 solution

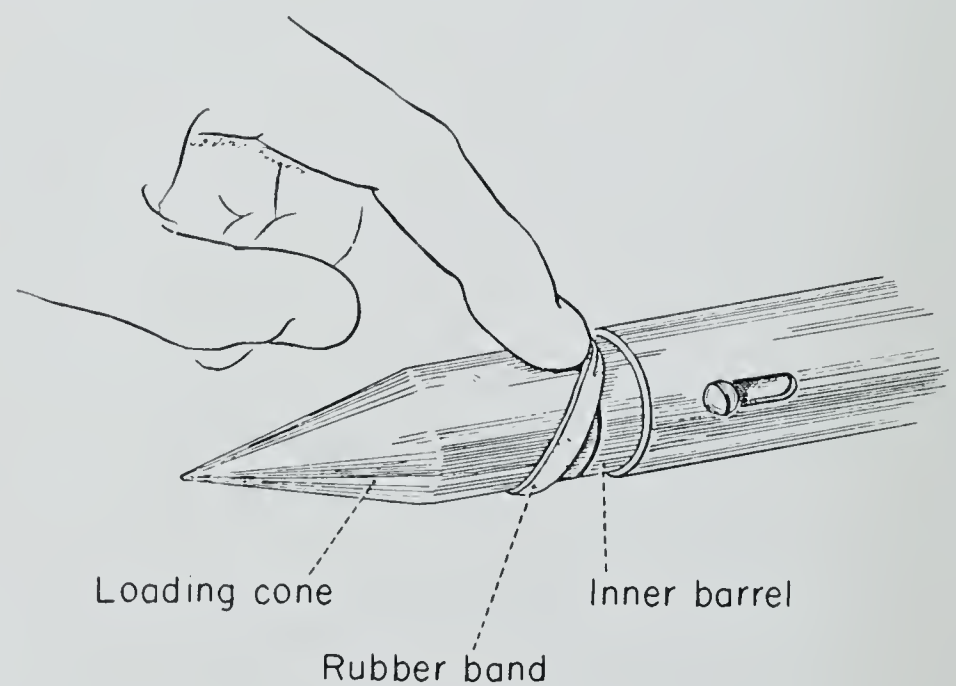


Fig. 2. Loading procedure.



DEVICE FOR TYING UMBILICAL CORD

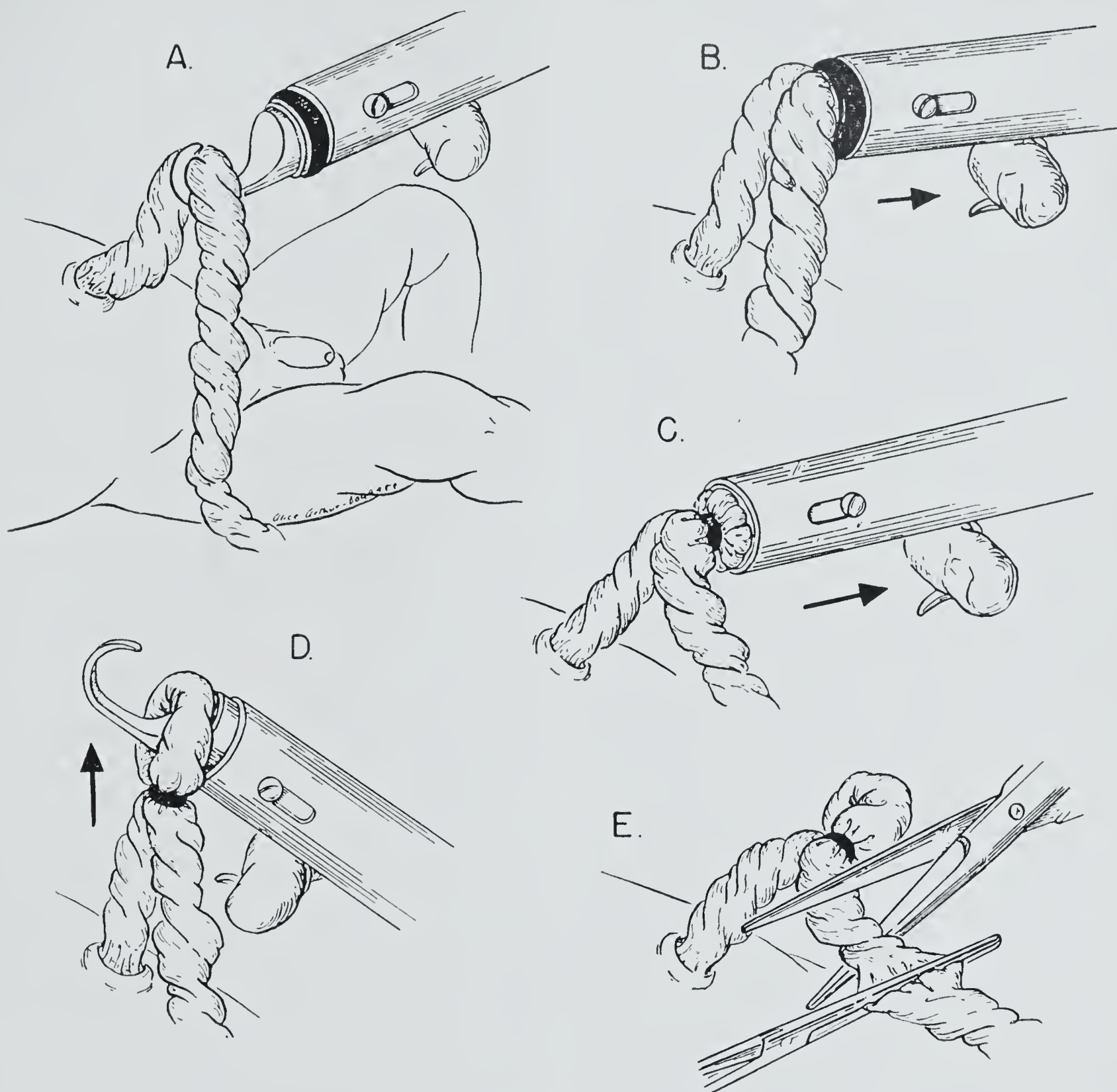


Fig. 3. Ligating procedure.

for at least 24 hours. The nurse scrubs the usual 10-minute surgical scrub and puts 10 to 15 bands on each loader while it is held submerged in the zephiran solution. These loaded cones are stored in zephiran solution until time for loading. The gun may be soaked or autoclaved, but the bands cannot be autoclaved in the expanded state. The loaded guns may be kept in the zephiran solution or placed on the delivery table.

When the gun tie is used, the baby is placed on the mother's abdomen. The slack cord is hooked at the desired distance from the umbilicus. The trigger is pulled, bringing a loop of cord within the barrels. The trigger is then pulled a little more forcefully, and

the inner barrel telescopes inside the outer barrel, thus tripping the rubber band off around the cord. The trigger is released, and the cord is delivered automatically, untouched by the obstetrician's potentially contaminated hands. To insure firm fixation of the band upon the cord, the point of the gun is raised until the loop slips back over the exposed hook shaft (Fig. 3). The cord is then clamped distally and cut in the usual manner.

RESULTS

Two series of cord ligation cases were run using the conventional cotton tape tie in one and the rubber band application by the gun



in the other. Of the 2663 cases on which the gun tie was used, only one bled. This cord was tied by a new intern who tripped off the rubber band onto the side of a large cord, only kinking the cord and not forming a loop. As a result, an area of blood 3 cm. in diameter was found on the diaper, and the stump was retied.

Another objection to cotton ties is that they do not contract on the cord as it desiccates and becomes smaller; therefore, hemostasis is not maintained. Because of its intrinsic nature, the rubber band contracts as the cord shrinks, thus maintaining constant constriction, which effectively prevents seepage from the stump.

Because of the apparent reduced neonatal stump infection with the use of the gun tie, a delivery room study of cord contamination was made. Cultures were made on the gun ties before they reached the operator's hands and after ligation; the results were negative for pathogenic organisms in every case. The ends of the cotton tapes used to tie the cord were cultured in brain-heart infusion broth and plated out on the appropriate culture media for identification. These were 100 per cent positive for pathogens. Since in all cases the cord was tied by the operator performing the delivery, the positive cultures indicate that the gross contamination of the operator's hands could be a prime factor in neonatal stump infections (Table 1).

According to Boissard and Eton, the neonatal umbilicus may be a source of streptococcal infection in the maternity unit. Kwantes and James found that the hemolytic streptococcus may be cultured from the umbilicus 8 weeks after the initial contamination. They suggested that this could produce a public health problem.

It seems that the gun-tie method of ligation meets the criteria set up and has several advantages over other ligation technics. Since everyone is familiar with the contour and workings of a pistol, this instrument can be handled with skill and ease by anyone. The umbilical cord can be ligated in a few seconds; therefore, the obstetrician's attention

TABLE 1. PATHOGENIC ORGANISMS CULTURED FROM THE ENDS OF COTTON TAPE ON 100 DELIVERIES\*

E. Coli.....	51%
Staph. albus (coag. neg.).....	50%
Enterococci (A, B, Gamma).....	38%
Proteus .....	8%
Alpha Strep.....	7%
Diphtheroids .....	7%
Staph. aureus.....	6%
Staph. aureus (coag. pos.).....	5%
B. subtilis.....	4%
Clostridium species.....	4%
Gamma strep.....	4%
Beta strep.....	4%
Pseudomonas species.....	3%
Paracolon bacilli.....	3%
Bacteroides .....	2%
Anerobic strep.....	2%
Klebsiella pneu.....	1%
Staph. albus (coag. pos.).....	1%
Clostridium welchii.....	1%
Anerobic beta strep.....	1%

\* Most of the cotton tapes cultured grew two or more pathogenic organisms.

is not diverted needlessly away from the mother or baby.

If the patient has a large "jelly" cord, this can be tied with ease by placing the index finger against the "safety bolt" on the barrel. This pressure prevents the inner barrel from telescoping and tripping the band prematurely. The mechanism of the gun is very simple and should last. It can be sterilized by any conventional method. The rubber tie remains in place and will drop off with the cord within 2 weeks.

This instrument in no way alters the method of managing the umbilical cord prior to ligation. The obstetrician may prefer to strip the cord. Contamination of the umbilical stump from the hands can be avoided by not stripping to the point of ligation.

# SUMMARY

The automatic gun ligation method fulfills our criteria for ideal umbilical cord management.

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### NEW LIQUID FORMULA DIET PRESENTS WIDE POSSIBILITIES

A new mineral and protein-free liquid formula diet has been tested successfully among a group of volunteer college students.

Dr. Victor Vertes, division of medicine, Mt. Sinai Hospital, Cleveland, said the liquid concentrate (Controlyte) promises to be valuable for many conditions in which mineral and protein intake must be avoided or controlled.

Writing in the current issue of the *Journal of the American Medical Association*, the Cleveland physician said the formula was found to be "palatable and well tolerated" when taken by the healthy students during a three to five-day test in contrast with many previous formula diets.

None of the subjects, 19 men and one woman, complained of hunger, although six craved solid food.

Weight losses ranged from 3 to 11 pounds. Some weight loss was expected, Dr. Vertes said, because the calories provided were not adequate for such active subjects. Preliminary data indicate that weight loss does not occur in hospitalized patients.

Dr. Vertes said there has been an obvious need for such a formula but difficulty had been encountered in the past in reducing the mineral content to a reasonably low level.

The new formula, which contains carbohydrate and vegetable fat, represents a "98 to 99 per cent" removal of minerals compared to a normal diet, he said.

The diet may benefit persons with cirrhosis of the liver, congestive heart failure, kidney disease, and other disorders in which sodium retention is a factor, he said.

"Patients who cannot adhere to routine low-salt diets might be benefited by periodic use of the formula as an adjunct to other therapies," he added.

The diagnostic uses of such a formula are multiple, Dr. Vertes said. For example, he said, the special diet kitchens, trained personnel, and complicated laboratory processes now required to study a patient's metabolism could be eliminated since any "fair-sized hospital" could perform metabolism studies if the formula were the sole food given the patient.

### LUNG CANCER INCREASING IN WOMEN

Cancer of the lung is primarily a disease of men, Dr. Ochsner states, but it is increasing among women. In New York State, in the 19 year period between 1931 and 1950, the incidence of cancer of the lung in men increased 385 per cent, while that of all other cancer increased only 2 per cent. During the same time, the incidence of cancer of the lung in women increased 68 per cent, while that of all other cancers decreased 15 per cent.

It is the only cancer the incidence of which is increasing in both sexes, Dr. Ochsner asserts. As far as treatment is concerned, the tragedy about cancer of the lung is that clinical manifestations are so indefinite that diagnosis is usually delayed, he says. It is difficult to make a diagnosis, and that is one of the principal reasons why the results have been so poor.

Dr. Ochsner reports on results of a study of 1,453 lung cancer patients in his own clinic which showed that only 8.5 of all patients were alive within five years.

He suggests two ways of attacking this problem: first, the physician should suspect cancer of the lung in every obscure lesion that does not respond to therapy; second, the person who smokes should have an X-ray taken every six months, preferably three months, so that when cancer develops it can be detected while it is still curable.





#### DR. DOUGLAS L. CANNON

One of the highlights of this year's Annual Session in Mobile was the presentation of an honorarium to our beloved Douglas L. Cannon for his long-time service to the Association.

As most of you know, Dr. Cannon had announced last year at the Birmingham Annual Session that he would retire as secretary-treasurer and as editor-in-chief of the *Journal* following this year's meeting.

In making the presentation to Dr. Cannon, Dr. Grady O. Segrest, former president of the Association, expressed the feeling of every member (and the central office staff too) with these words:

"We come at this time to pay a solemn and beautiful tribute to one of our own group—a doctor who has rendered more unselfish service to the doctors and the people of Alabama than any other Alabama physician in his generation. The service has been possible because this man was capable, energetic, full of wisdom, and decided early in life to think first of his duty to God, and, second, his responsibility to man. As he grew and developed his personality, he followed closely the teachings of Saint Peter, as recorded in the Bible, in that he added to his faith—virtue; and to virtue—knowledge; and to knowledge—temperance; and to temperance—patience; and to patience—Godliness; and to Godliness—brotherly kindness; and to brotherly kindness—charity.

"In attempting to develop his personality further, he decided to lay aside all malice, and all guile, and hypocrisies, and envies, and all evil speaking that he might grow and increase his capacities for service.

"It takes eighteen to twenty-two years or less for one to reach his full physical matur-

## Editorials

ity, but it takes from sixty-five to eighty years to develop a well rounded, well organized, effective and minutely integrated personality.

"This man, in order to develop this type of personality, realized from his youth up that it would be necessary to follow certain fundamental and universal laws, such as: first, thought control. He knew that it had been said in old times, 'That as a man thinketh, so is he.' He accepted that as one of the rules by which it would be necessary to live in order to develop his full personality. Second, hard work. In reviewing biographies and autobiographies he soon learned that all great men had at least two things in common—energy and integrity, and so he made this another aim in life. Third, charity and love for his fellow man, expressed in a life of service to other people.

"We have reference to Dr. Douglas L. Cannon. Dr. Cannon was born in Spartanburg, South Carolina. He married Rosamond Hamilton and they have one son, Joe, a pediatrician. Dr. Cannon graduated from Spartanburg High School and took his preprofessional college course at Clemson Agricultural College, receiving a B. S. degree in 1913. Following this he attended the Medical College of the University of North Carolina for two years and graduated from Jefferson Medical College in 1919. He interned in the Hillman Hospital, Birmingham, and received his Masters in Public Health at Johns Hopkins University in 1936.

"He was Assistant Health Officer of Alabama from 1922 to 1928, and State Health Officer from 1928 to 1929, Deputy State Health Officer and Director of County Health Work, 1930 to 1955; member of the Medical



Association of the State of Alabama of which he was Secretary from 1931 to 1939, and has been Secretary-Treasurer since 1940; Managing Editor and Editor-in-Chief of the Journal of the Medical Association of the State of Alabama since 1942; Director of Montgomery YMCA and President of that organization in 1942; Awarded Silver Beaver in 1944 for his services to the Boy Scouts of America; President, Montgomery Charity and Welfare Council, Community Chest, 1945 and 1946. He is a Diplomate of the American Board of Preventive Medicine and Public Health; Fellow, American Medical Association; member of Southern Medical Association; and Alabama Public Health Association; Member of Phi Chi Medical Fraternity. He is a Democrat, a member of the Presbyterian Church, and belongs to the Montgomery Rotary Club, of which he was President from 1935 to 1936.

"There is one man the world will never forget—a man that takes out of the world a little less than he puts into it—a man who has been a friend and rendered unselfish service to his neighbors, friends, poor relations, and to the organizations to which he belongs. Dr. Cannon belongs to this type of man.

"The good that men do live after them—so it will be with Dr. Cannon. The service he has rendered to the Medical Association of the State of Alabama will be enjoyed by the doctors in Alabama from now until then—the end of time."

#### OLDEST LIVING PAST PRESIDENT

In doing research on the hometowns of the past presidents of the Association for the *Mobile Press-Register* and the *Birmingham News*, it was interesting to learn that Dr. Joseph Davis Heacock of Birmingham is the oldest living past president of the Association.

Dr. Heacock was elevated to the presidency of the Association at the Annual Session of 1924 in Montgomery and served during the 1924-25 period.

We are happy to report that Dr. Heacock is still practicing medicine today at the age of 91.

Dr. Heacock is the oldest member of the Jefferson County Medical Society, and also the oldest practicing physician in the Birmingham area.

Dr. Heacock graduated from Tulane University in 1892 and has practiced medicine for 68 years.

Through his proficient and untiring ministry in the science of healing, Dr. Heacock has done honor to God, his community, his profession, and himself.

#### A. M. E. F.

The American Medical Education Foundation is an organization exclusively for physicians. It was conceived and organized by the American Medical Association for the sole purpose of getting physicians to contribute some of their charity dollars to the medical schools. Although many physicians already contributed to their own schools through alumni funds and endowments, the medical schools were still in dire need of additional operating funds; and it was felt that more doctors would contribute to their support if asked to do so. Furthermore, the alumni funds, endowments, and other funds the schools already had were designated for certain specific uses. What the schools needed most was *undesignated* money which they could use *wherever it was needed*, from supplementing teachers' salaries to buying more equipment. A multitude of letters from the various medical schools to AMEF headquarters in recent years attest the very great value of the money already received and the urgent need for continuing this vital support.

Nation-wide the AMEF contributions for 1959 increased 17.2% over 1958, and a total of \$1,195,824.79 was given. (*Since all AMEF expenses—administrative and otherwise—are paid by the AMA, every dollar contributed goes directly to the schools as undesignated funds.*) In Alabama, although the number of individual contributors dropped from 586 to 568, the total amount received rose from \$8,387.16 in 1958 to \$13,051.42 in 1959. This year we ought to do better!

Your state AMEF committee met in Montgomery on January 17 to map plans for 1960



and resolved to:

1. Continue having our annual fund drive in May each year, but to send a "reminder letter" to each physician in December since experience has shown that nearly one-third of our donations are received that month.

2. Continue our efforts to solicit donations through the county medical societies and ladies auxiliaries where such groups exist and are well-organized (with local AMEF chairmen), and concentrate our state-wide solicitations on the other areas.

3. Work more closely with the ladies auxiliary and lend them our whole-hearted support in their fine efforts for AMEF.

4. Encourage druggists throughout the state to donate to AMEF according to the "Arizona Plan."

5. Inform our own Association members more adequately as to the purpose and function of AMEF, and clarify our position with respect to the NFME. This will be done in a later editorial in the Journal.

When I consider the division of my own "charity dollars," my church and local community come first. But second, I contribute to my profession through AMEF and then, third, to the national health agencies (in which, incidentally, the Heart Fund gets the lion's share). In fourth place come all the multitudes of other solicitors who seem to come in increasing numbers each year asking for money for every conceivable cause. Sometimes I give these folks a few dollars, but most times I don't! In the division of your charity dollars I sincerely hope you will elevate AMEF from fourth place to second place, as I have, and give generously to the medical school which gave you your most prized education!

D. E. Owensby, M. D.

#### INTERNATIONAL COLLEGE OF SURGEONS

The Alabama Surgical Section of the International College of Surgeons will hold their Annual Meeting on May 25-26 at the Hotel Stafford in Tuscaloosa.

Dr. Henry B. Turner, associate professor of gynecology, University of Tennessee School of Medicine, will lecture on "Surgical Head-

aches in Gynecology" at the opening session. Dr. Walter G. Haynes, Birmingham, will speak on the "Treatment of Acute Head Injuries"; Dr. Daniel C. Riordan, president of American Society for Surgery of the Hand, and chairman of the section on orthopedics and traumatic surgery of Southern Medical Association, will discuss the "Treatment of Acute Hand Injuries"; Dr. Felix A. Hughes, Jr., chief, thoracic surgery section, Kennedy V. A. Hospital, Memphis, will talk on "The Present Status of Thoracic Surgery."

The afternoon speakers will be Dr. William A. Maddox, Birmingham, "Diagnosis And Management of Parotid Tumors"; Dr. Robert J. Meade, assistant professor in plastic surgery of Tulane University School of Medicine, "Problems on Plastic Surgery"; Dr. Jewitt E. Wheeler, Tuscaloosa, "Third Trimester Bleeding—Diagnosis And Management."

Senator John Sparkman will be the banquet speaker that evening.

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#### FOUNDING OF THE ASSOCIATION

It is noted in the Transactions of 1951 that Mobile is the "Mother of Medicine in Alabama." It was there that the Medical Association of the State of Alabama was organized on December 1, 1847. "Actually, the physicians in attendance on that day had met to make plans for a state hospital for the insane but after three days of fully maturing all plans and details they organized into the Medical Association of the State of Alabama."

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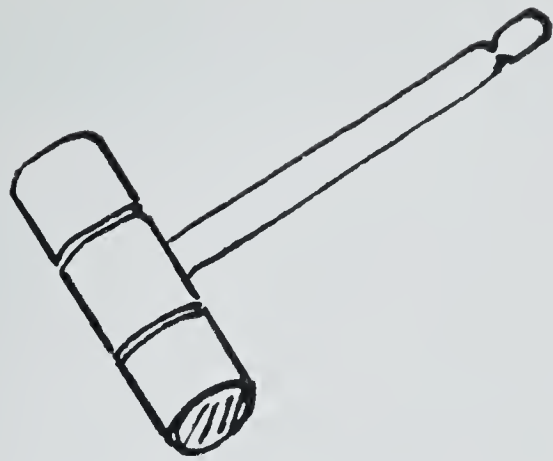
#### AMERICAN RHEUMATISM FOUNDATION

A Post-Graduate Seminar in Arthritis and Related Diseases will be held June 11-12 at the Diplomat Hotel in Hollywood-By-The-Sea, Florida.

This meeting will immediately follow the Annual Meeting of the American Rheumatism Foundation and immediately precede the Annual Meeting of the American Medical Association.

The course is acceptable for 8 hours of category 1 credit by the Academy of General Practice.





# President's Page

'Twas Greeley who said, "Go West young man—". Thus might someone have spoken to this young man. Born in Spartanburg, S. C., where he received his early schooling, he attended Clemson Agricultural College at Clemson, S. C. Later deciding to study medicine, he went to the University of North Carolina for two years and then to Jefferson Medical College in Philadelphia where he graduated in 1919. Following graduation he served an internship at Hillman Hospital in Birmingham, Alabama.

For the next two years he was Director of the County Health Department in Pike County, Alabama. In 1922 he resigned this office to return to medical school for further training. He received his Masters Degree in Public Health from Johns Hopkins University in 1923.

After completing this work he "came West," locating permanently in Alabama. In 1922 he became Director of County Health Work for the State Department of Health, an office which he filled except for a short period until 1955 when he resigned to become County Health Officer of Montgomery County. He continues to hold this position.

During his many, many years of untiring and unselfish service to medicine in the state of Alabama, he has filled a number of positions. Following the death of Dr. H. G. Perry in 1923, this man became acting secretary of the State Association. In 1930 he became secretary, in 1939 acting treasurer; and in 1940 he was appointed secretary-treasurer, a position which he continued to hold until April of this year.

Among his many other offices, aside from his regular position in public health work, he served as Chairman ad interim of the Pub-

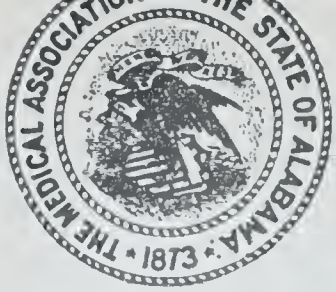
lishing Committee. He served here from 1923 to 1930.

When the Association's Journal was established in 1931, he was chosen a member of the Committee of Publication; and for the following 11 years he was directly responsible for the publication of the Journal. In 1942 the State Board of Censors named him Editor-in-Chief. He continued in this office until April of this year. In 1928 he became an active Counsellor of the Association, and in 1948 he was named a Life Counsellor.

To continue with his many services, he was elected in 1929 to the State Board of Censors where he served for one year. That same year he was also elected State Health Officer, a position he had to give up after a short period due to illness.

This man is none other than our dear friend Dr. Douglas Launeese Cannon. His service as Secretary-Treasurer of our Association and as Editor of the Journal has extended over nearly forty years. It was with much reluctance that his resignation was accepted in April of this year. He, more than any other man in the state perhaps, has been intimately associated with and involved in all the changes in our Association during that time. All of this work he has done in addition to his regular duties as Health Officer. He was ever devoted and dedicated to the tasks to be done, always putting "first things first." His ability as an organizer and his unselfish friendship will be felt for years to come. Our counselling table will truly miss him.





## ORGANIZATION SECTION



HUGH E. GRAY  
B. S., M. D., F. A. C. S., F. I. C. S.  
Anniston  
PRESIDENT OF THE ASSOCIATION

Dr. Hugh E. Gray became the 91st president of the Medical Association of the State of Alabama on April 23 at the Association's 99th Annual Session in Mobile.

Dr. Gray is the first Anniston physician to be elected president of the 113 year-old medical organization.

The newly elected president is a native of Alabama, born in Ohatchee where he attended high school. Dr. Gray is a graduate of the University of Alabama and received his medical degree from the University of Michigan in 1924. He served a rotating internship at Methodist Hospital in Indianapolis and completed his surgical residency at the Henry Ford Hospital in Detroit in 1926.

Dr. Gray is a member of the Southern Medical Association, American Medical Association, Amer-

ican College of Surgeons and International College of Surgeons. He has served as president of the Calhoun County Medical Society, vice-president of the Medical Association of the State of Alabama and vice-president of the Alabama Section of the International College of Surgeons.

Dr. Gray has practiced general surgery in Anniston since 1926. He is affiliated with the Anniston Memorial Hospital and Stringfellow Memorial Hospital.

He is a member of the First Presbyterian Church, Anniston Chamber of Commerce, American Legion, Masonic Lodge, and a board member and chairman of the finance committee of the Anniston National Bank.

Dr. Gray is married to the former Martha Wickstrom of Detroit, Michigan.





J. PAUL JONES, M. D.

Camden

CHAIRMAN, STATE BOARD OF CENSORS

At a meeting of the State Board of Censors immediately following the annual session in Mobile, Dr. J. Paul Jones was elected Chairman of the Board. He succeeds Dr. E. V. Caldwell, Huntsville, who retired in April after twenty-six years in the chairmanship.

This latest honor accorded Dr. Jones climaxes a brilliant lifetime of service to organized medicine. He has served The Medical Association of the State of Alabama in practically every capacity. He has done yeoman duty on many committees and at one time served as chairman of the Committee on Medical Service and Public Relations when that was the most active committee of the Association. He was president of the Association in 1948-49. He served as Delegate to the American

Medical Association from 1950 through 1958 and during a good portion of that time was a member of the Committee on Rural Health of the A.M.A. He has been a member of the State Board of Censors since 1951.

Dr. Jones has not confined his service to organized medicine to the Association alone. He has been and still is very active in such organizations as the Alabama Academy of General Practice, in which he served as president in 1950.

Dr. Jones has devoted his professional life to the people in and around Camden. Despite a heavy schedule of work, he is never too busy to devote time and energy to the affairs of the Association.





MRS. JOHN T. MORRIS

Mrs. John T. Morris of Cullman is the first physician to serve as president of the Woman's Auxiliary to the Medical Association of the State of Alabama.

The newly installed president received her medical degree from the University of Iowa in 1945, after graduating from Grinnell College in her native state of Iowa.

Mrs. Morris completed her post graduate studies in medicine at the Johns Hopkins University in

Baltimore, Maryland, before marrying a fellow physician, John T. Morris of Birmingham.

Mrs. Morris jointly practiced medicine with her husband in Hanceville and in Cullman before retiring several years ago to devote her time to her two sons, Tommy and Lee.

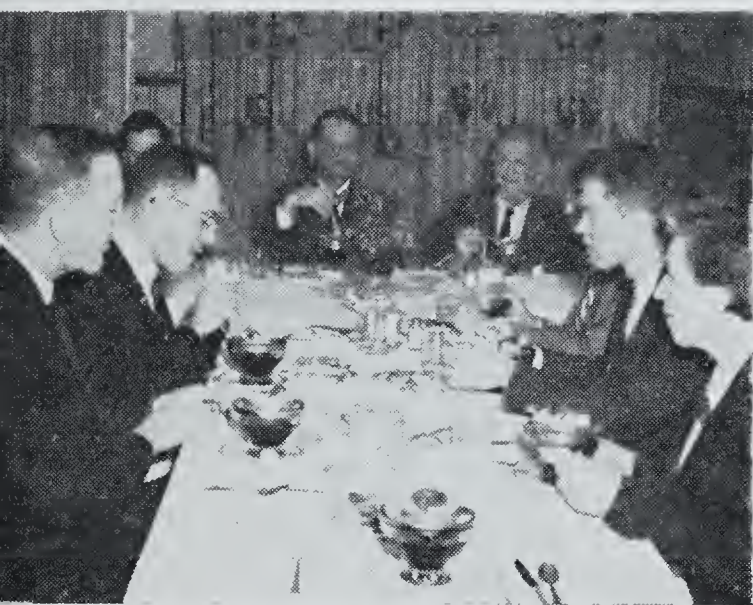
The new president has served on the board of directors of the Woman's Auxiliary for five years. She is a member of the Methodist Church, Town and Country Garden Club, P.T.A., and Community Music Association in Cullman.





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## COUNTY SOCIETY SOJOURN



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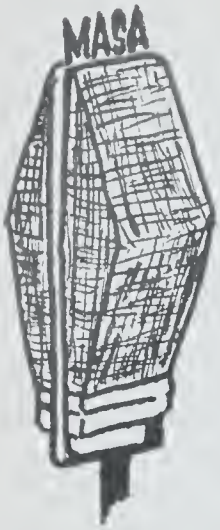
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Tom Hendricks, assistant to the executive vice president of the American Medical Association, made better time than indicated in picture (1) during his recent trip to Alabama. Tom, along with chauffeur Bil Dozier, met with various county medical societies on the problem of national legislative programs. Meetings were held in Birmingham (2), Anniston (3), Dothan (4), Tuscaloosa (5).





## ASSOCIATION FORUM

# TRANSATLANTIC TELEPHONE SYMPOSIUM

### ON THE EFFECT OF ESTROGENS IN THE MENOPAUSE, INCLUDING THE METABOLISM OF ESTROGENS



The participants in action during the transatlantic symposium held recently via 5,000 miles of telephone cable between New York and Amsterdam. In New York (top left) Drs. Robert B. Greenblatt, professor of endocrinology, Medical College of Georgia; Laman A. Gray, associate professor of obstetrics and gynecology, University of Louisville School of Medicine; Peter A. Warren, director of Excerpta Medica Foundation; Edwin C. Hamblen, professor of endocrinology and professor of ob-



stetrics and gynecology, Duke University Medical Center. In Amsterdam (top right) Drs. Peter M. F. Bishop, endocrinologist at Guy's Hospital and the Chelsea Hospital for Women, London; I. A. Wijsenbeek, practicing obstetrician and gynecologist, Amsterdam; H. de Watterville, professor of gynecology and obstetrics, Medical College of Geneva; Egon Diczfalusy, director of the Hormone Laboratory at Karolinska Hospital in Stockholm.

Dr. Wijsenbeek: Hello, New York; this is Amsterdam, Holland. I want to speak to Mr. Warren, the director of the Excerpta Medica Foundation. Hello, Mr. Warren, are you all ready for this discussion?

Mr. Warren: Hello Dr. Wijsenbeek, this is Warren speaking. Yes, we are certainly all ready here.

Dr. Wijsenbeek: As you know, we have met here today—if we can be said to have met, when we are linked together by several thousand miles of cable—we have met to discuss “The Effects of Estrogens in the Menopause, Including the



Metabolism of Estrogens.” Our aim is to get down to brass tacks on this subject—in other words, to discuss what one could do for the patient who is suffering from one of these various aspects of menopausal disturbances. In particular, we want to thrash out the question—what we mean by the term “estrogen” and how to use estrogens to the best advantage and with the greatest possible safety; also why we use them, and in what form and what dosage. Finally, we shall have to deal with the complications of estrogen therapy, more particularly with the possibility that estrogen therapy can increase the risk of cancer. Shall we start by settling what we mean by the menopause and what are the symptoms that we are hoping to relieve with estrogens?

Dr. Greenblatt, would you be kind enough to open the discussion?

Dr. Greenblatt: As I see it, the menopause is a period in a woman's life when decline in balanced ovarian function is accompanied by cessation of menstrual flow. It is another milestone in the woman's progress through life. In the main, we call it the climacteric—or if you prefer, the change of life. When her menstrual periods cease the woman steps from reproductivity into middle age, free from the responsibilities, the stresses, the hazards and the trials associated with childbirth. However, the loss of hormonal support resulting from declining ovarian function may bring on a variegated train of symptoms. These symptoms may result from autonomic nervous system imbalance—hot flushes, sweats, palpitations, spasms, formication, and so on. Or we may have psychogenic disturbances, such as insomnia, crying spells, depression, apprehension and nervousness. Then there may be the metabolic disorders such as atrophy of the vulva causing pruritus; urinary bladder dysfunction—nocturia and frequency of micturition, osteoporosis, with its accompanying bone and muscle aches; and various catabolic phenomena.

Dr. Wijsenbeek: Forgive me for interrupting, Dr. Greenblatt, but it might be useful to put in some figures at this stage to show at what age these menopausal symptoms may be expected. Perhaps I may read out the analysis recently quoted by Millot and Daux in their paper in the March issue of the “Archives des Maladies du Coeur.” They tell us that 3.6% of women have their menopause before the age of 40; 20.5% between 40 and 44; 44% between 45 and 49; 30% between 50 and 54; and 1.6% after 55. That means that the ages are more or less randomly distributed between 40 and 55, very few women having their menopause before 40 and very few after 55, the main block falling between 40 and 54, with the peak between 45 and 50. These authors suggest that the menopause occurring at or before the age of 43 must be considered precocious. Less than 15% fall in this category. Is that more or less your experience, Dr. Greenblatt?

Dr. Greenblatt: Yes, but I'm not entirely in agreement with this concept. I think one can sum it up by saying that this is a complaint of the forties and early fifties, and that very few women are seriously troubled by it before the age of 43.

Dr. Wijsenbeek: Dr. Greenblatt, would you say that all women get some trouble with their change of life, or do some escape altogether?



Dr. Greenblatt: Certainly, there are many women who experience no serious discomfort at all in passing through the menopause. For these people treatment is quite unnecessary. The less said about the whole thing, perhaps the better. At the other extreme there are women who experience such severe symptoms that some form of therapy is advisable, if it can be applied with safety. I know that many physicians feel that the menopause is a physiological process and no therapy for it is indicated. Others believe that all that these patients need is encouragement, sympathy, and a thorough explanation of what is going on. In their view, therapy merely prolongs the menopause and does no good. I do not belong to this school of thought, though therapy can certainly be overdone. We have to bear in mind, I think, that flushes are merely one aspect of the menopause; irascibility, migrainoid headaches, insomnia, apprehension, moods of depression and nervousness may occur without any hot flushes at all. Then we mustn't forget the sequelae of the menopause, such as senile vaginitis, pruritus vulvae, and osteoporosis. These must be considered part of the menopausal syndrome.

Dr. Wijsenbeek: Thank you, Dr. Greenblatt. Dr. Hamblen, did you mean to speak on this subject of sequelae?

Dr. Hamblen: Yes, perhaps I am somewhat prejudiced because I have practiced in a relatively rural community. In fact, North Carolina has been called a vale of humility between two mounds of conceit. It seems to me that the major emphasis in treatment should not be placed on the year or so of transient symptomatology, but on the late postmenopausal phase of the change, that is on the epoch of senescence. In 1900 the average life expectancy of women in the United States was 48.7 years. Fifty years later this figure has risen to 72.4 years. In other words, in half a century twenty-four years have been added to woman's life, but the menopause still occurs at the same time as it always did. Our chief therapeutic efforts, in my opinion, should be devoted to making these additional years full years of living.

It seems logical to me that there are well-defined indications for geriatric estrogen therapy in many women. Woman should be permitted to have this therapy, when indicated, without having hanging over her head the Damoclean sword of fear that cancer may be produced. This estrogen therapy should be given orally and cyclically and should be combined with a moiety of progesterone to prevent undue, unopposed estrogen stimulation of the endometrium and of the breasts.

Moderator: Of that aspect we must remind you later. There is a tendency to look upon the menopause as a disease, and most of the ills that women suffer from between 40 and 50 are apt to be put down to "the change."

Dr. Hamblen: Yes, I agree, there is this unfortunate tendency, and I look upon it as dangerous and careless. The multiplicity of symptoms during the change must not prevent us from making a real attempt to sort them out and diagnose them separately. For one thing, we should never assume a functional etiology until real disease has been thoroughly ruled out. This is particularly true when we are dealing with the disorders of uterine and



genital bleeding. Objective diagnosis is a paramount obligation in all cases of functional, excessive or too frequent uterine bleeding. A curettage is absolutely essential, and if abnormal bleeding recurs later, we must curet again and again.

Moderator: Perhaps you would tell us at this stage, Dr. Hamblen, how you proceed when faced with a case of menopausal disturbances. What do these women come to the doctor for? What are their usual complaints, would you say?

Dr. Hamblen: Well, I think that we can start by dividing their complaints into general and local. We have already listed the general ones and emphasized that hot flushes, though among the commonest symptoms, are by no means the only ones. All varieties of cardiovascular, psychogenic, metabolic, urinary, muscular and bony symptoms are presented to the doctor in different guises, usually with the gratuitous diagnosis of the "change of life" attached. Then there are local symptoms, of which, of course, the main one is abnormal bleeding. As regards the general symptoms I must emphasize again the absolute necessity of making every effort to come to a definite diagnosis. The local bleeding may be serious in itself, but more commonly it is a symptom of some underlying disease. The doctor's job is to decide whether or not the prolonged, excessive, or too frequent bleeding is a manifestation of a local lesion or is a functional symptom with a hormonal basis, or on the other hand, is it a sign of a more widespread disorder. Abnormal bleeding at this time of life requires curettage and a careful pathological study of the available endometrium. Of course, we curet far more women at this time of life for diagnosis than we treat because of any excesses of uterine bleeding. Functional uterine bleeding of such amount as to require treatment should be treated, in my opinion, at this time of life in the same conservative manner as in the younger woman, rather than hysterectomy or radiotherapy or roentgen therapy.

Moderator: Thank you very much, Dr. Hamblen. Dr. Diczfalusy, it will be very useful, I think, if you can now give us some basic facts about estrogens, their production and excretion.

Dr. Diczfalusy: This is a big order, but I will try. First of all the term "estrogen" denotes a group of compounds with widely different chemical structures including "natural" estrogens normally formed in the body, such as estradiol and other steroid estrogens; and secondly, "synthetic" estrogens, such as stilbene derivatives and other nonsteroidal compounds. Sometimes a third group is also referred to, consisting of natural compounds possessing estrogenic activity. The estrogenic action of all these substances seems to be fairly similar, but their biological actions are certainly not identical in every way. It would therefore be justifiable, I think, to prefer the natural estrogens for the purposes of substitution therapy. The question then is what sort of natural estrogens? Now, before discussing the "estrogen situation" in menopausal and postmenopausal women, it might be useful to consider the general situation in nonpregnant women. Three important questions must be tackled: Firstly, where do the estrogens come from? Secondly, which estrogens are produced? And thirdly, approximately how much?



The answers to these questions must be partly based on unproved assumptions. There are at least five estrogen sources operating in the human nonpregnant female—the ovaries, the adrenals, peripheral conversion of androgens and corticosteroids, and finally, estrogenic materials taken in with the food. From the tentative estimates it can be seen that from the quantitative point of view the most important sources are the ovaries and then the adrenals. The balance of evidence based, among other things, on isolation studies and metabolic experiments now strongly suggests that the primary estrogen elaborated by the ovaries (and perhaps also by the adrenals) is identical with estradiol and/or estrone. If so, the approximate amount of estrogen produced by the non-pregnant human female in different conditions can be calculated on the results of urinary excretion studies after the administration of various estrogens, and on replacement studies in ovariectomized women. I have tried to calculate these amounts from the available evidence based on estrogen estimations in different centers, where methods have been used which fulfill the recognized criteria of reliability. These estimates indicate that—depending on the phase of the cycle—normally menstruating women produce two to eight times more estrogen than postmenopausal women. It also appears that in postmenopausal women both the adrenals and ovaries may be significant sources of estrogen, although the balance of evidence seems to indicate that—from the quantitative point of view—the adrenals are probably much more important. However, the estrogen-producing capacity of the postmenopausal ovary may show very wide individual variations, as is seen in studies of ovarian histology and endometrial biopsies. Several of the natural estrogens—for instance, estrone, estriol and the so-called “conjugated” forms of these and other estrogens, as they are excreted in the urine of women or pregnant mares, are biologically active in human beings when given by mouth. It has been suggested that some 16 substituted natural estrogens—for instance, estriol—can exert biological effects on the cervix and myometrium in dose ranges at which estradiol, the most potent of the natural estrogens, is still inactive. New data on the effect of such estrogens will be exceedingly interesting.

Moderator: Thank you, Dr. Diczfalussy.

Dr. Hamblen: Dr. Diczfalussy's comments on the new estrogen effects are most interesting. I am particularly awaiting the further studies which he mentions. For instance, I found his last suggestion particularly instructive; that is, the fact that natural estrogens of the estriol type exert a special activity on the cervix and myometrium which is greater even than that of estradiol, which we look upon as the most potent of the natural estrogens. I would like to ask Dr. Diczfalussy—Is this an unusual type of effect?—What is the effect on the cervix?—What is the effect on the myometrium? There is a lot of clinical information which would seem to indicate that the production of estrogen, with the ovaries as a major source, is steady in postmenopausal women until the 9th decade, though, of course, at a lower level than before the menopause. Perhaps the postmenopausal ovary is more important in the production of estrogen than we might be led to believe. Certainly the view held by many investigators, including the



late Earl Engle, that the postmenopausal ovary has no biological future lacks, in my opinion, any really secure foundation.

Moderator: I think we have struck an important difference of opinion here by the look of it. We'd better try to get our own views as straight as we can make them on this question of the functional activity of the postmenopausal ovary. Dr. Hamblen, can you give us some more evidence?

Dr. Hamblen: Well, Dr. Diczfalusy tells us that the main sources of estrogen derivatives in the urine of postmenopausal women are the adrenals, plus some from conversion of androgen to estrogen, and some more from estrogenically active compounds in the diet. On the other hand, there are certainly some pretty strong other opinions which I think one has to take into consideration. For instance, Randall and his colleagues believe that the ovary is a source of a significant portion of these estrogens, anyway. Paulsen and others reported that estrogen excretion remained pretty well constant through the postmenopausal years and that the level in the castrated postmenopausal women was only one-half as high as in the women with normal menopause. That seems to me to be significant. They also reported that the urinary gonadotrophin levels were significantly higher in castrated women than in noncastrated postmenopausal women. McBride and his colleagues estimated that the urinary estrogen levels of postmenopausal women were of the same order as those of women capable of reproduction during a menstrual period. This is not a particularly low level, for Professor Markee, a colleague of mine at Duke University, has shown that menstruation occurs when blood-estrogen levels are reduced by only 50% from the peak values of the cycle. I know that Struthers took the view that neither the ovary nor the adrenal was the source of estrogen production after the menopause. He based his estimations on the vaginal cytological studies. His argument was based on the findings that the estrogen production of postmenopausal women was not appreciably altered either by bilateral oophorectomy or by bilateral oophorectomy plus bilateral adrenalectomy.

Moderator: That is hardly the universal finding, is it?

Dr. Hamblen: No, certainly not. There are a lot of possible sources of error in this kind of research. McBride points out that the level of estrogen metabolites in the urine may give us a very inadequate idea of the level of estrogen production. He suggests that a low level of some of the components—estradiol, for instance—may indicate a high degree of estrogen metabolism. Anyway, if we look back at Rakoff's work in 1955, we find that he used the same cytological method for estimating estrogen levels, but he found that bilateral oophorectomy in postmenopausal women caused a sharp deterioration in vaginal estrogenization. And he concluded that the ovaries were the chief source of postmenopausal estrogen production. It seems to me, therefore, that there is far stronger evidence that the postmenopausal ovary is active than that it fulfills no biological role.

Moderator: Dr. Gray, do you share this opinion with Dr. Hamblen?

Dr. Gray: Dr. Wijsenbeek, while I revere Dr. Hamblen's opinion on everything in endocrinology and gynecological problems in general, I must say that I



disagree with his point of the value of the dried-up atrophic ovary of the woman long after the menopause. I cannot see any great concern over this postmenopausal ovary. We have such excellent methods of giving estrogen therapy to replace it, so far as I know in every effect, that it is rather immaterial. Now, I would be interested for a moment in Dr. Diczfalussy's—in his opinion regarding these studies of estrogen excretion after the menopause. As I understand it, a certain amount of estrogen must be given to these women; and then the chemist studies the excretion; and if he recovers more than he gave, then he assumes that the ovary, or something, must be forming estrogen. I wonder if there might not be a fallacy in that method, if it is true, since essentially no estrogen can be found by itself. Now, we have been following a large number of patients for more than 20 years with vaginal smears before and after hysterectomy and bilateral salpingo-oophorectomy. It is my opinion that after the menses cease, about 20% of the women continue an estrogenic smear for two or three years or many years; the remainder develop an atrophic smear rather rapidly and may have the menopausal symptoms in which we are interested.

Moderator: I think when we ask Dr. Diczfalussy if he also can adjudicate on the point raised by Dr. Hamblen, that there is far stronger evidence that the postmenopausal ovary is active than that it fulfills no biological role, and then we'll pass to another subject.

Dr. Diczfalussy: Let's get this straight. I do agree that the postmenopausal ovary does produce some estrogens. The problem is how much? The evidence on record which has been published so far by six centers in this part of the world clearly indicates that postmenopausal women excrete significantly less estrogen than premenopausal women. Then again, the clue may lie in our friend, individual variation. I would think that one explanation of the apparently divergent findings may very well be that there are very wide individual variations in the estrogen-producing capacity of the postmenopausal ovary depending on the rate of disappearance of germinative tissue. So, I would think that if there are no more follicles in the ovary, there may not be any significant estrogen excretion. Now, both the adrenals and ovaries are significant sources of estrogen. Adrenal inhibition with cortisone considerably reduces the production of estrogens in postmenopausal women but certainly does not stop their production altogether. In case you give ACTH to postmenopausal women, you get a marked increase in estrogen excretion. Now, I don't agree with Dr. Gray as far as the vaginal smears are concerned. It is difficult for me to see how vaginal smears will give you strict quantitative aspects.

Moderator: Here's a question, Dr. Bishop. Is it fundamental?

Dr. Bishop: Well, as I have been listening to this argument with Dr. Hamblen and Dr. Gray quoting authorities who may be familiar to us but possibly not to many of you, our listeners, and Dr. Diczfalussy presenting very concrete laboratory evidence, I've got to wonder whether I really understand what is the main source of postmenopausal estrogen. But of one thing I am convinced—from many long years of bitter experience—and that is, if



you suddenly destroy ovarian function by bilateral oophorectomy, deep X-rays, or radium, whatever the age of the patient provided that she is premenopausal, you are letting yourself in for a stormy menopause often accompanied by a severe depressive psychosis which may be very difficult to treat and which, in my experience, has often completely disrupted domestic relations. Please, please do not remove the ovaries in a woman who is still menstruating (unless you absolutely have to), even if they may subsequently become malignant, which I do not think is a serious consideration.

Dr. Hamblen: I agree, Dr. Bishop. In my view, normal ovaries should never be removed from women of any age on the basis of age alone. Many surgeons remove the ovaries of menopausal women at an indicated hysterectomy as a prophylaxis against the development of ovarian cancer, which they consider a more serious danger than the outbreak of an early menopausal symptomatology. I'm sure Dr. Bishop is right in saying we should avoid inducing artificial menopause whenever it is possible. And if a woman has an early menopause—whether it is spontaneous or induced—if she has hypoestrogenism, she should have full substitutional therapy with cyclic estrogen and progesterone therapy by the oral route until she reaches the age when she would have had her menopause in the ordinary way.

Moderator: Good. Do you look on the aging process of women as primarily the result of ovarian failure? Or is the ovarian failure the result of the aging process?

Dr. Hamblen: My belief is that the genital aging of women is due to their climacteric ovarian failure. But this is only one aspect of over-all aging, and the two are not necessarily chronologically related. Some of the best years of a woman's life follow the menopause; and after the change, whether spontaneously or with medical aid, a woman may maintain a high degree of cosmetic elegance and carry on a most satisfactory sexual life.

Moderator: And how do you view the vasomotor instability and psychogenic quirks of the menopause? Are they a direct result of estrogen deficit?

Dr. Hamblen: The cause cannot be either the progressive hypergonadotrophic function of the pituitary or hypoestrogenism. For example, patients with rudimentary gonads, who have never had pubescence, have hypoestrogenism and hypergonadotropuria, but they get none of the hot flushes or other subjective symptoms long identified with the change. It makes one speculate whether the effects of estrogen therapy on these symptoms are primarily due to their specific action or to their psychotherapeutic effects and the sense of well-being that they induce.

Moderator: Thank you, Dr. Hamblen. Now, I am looking to Dr. de Watteville to go into some details about the pharmacology of estrogens. Will you tell us, please, what differences there are in the actions of various estrogens, and whether the natural and synthetic ones have different indications and effects?

Dr. de Watteville: Women vary widely in how much they suffer at the change and in what pattern their sufferings take; quite a lot of women get away with a



physiological and symptom-free menopause. They all seem to have much the same endocrine background to their menopausal syndrome, though, as reflected in the urinary levels of hormones and metabolites.

There is a fairly uniform diminution of pregnanediol due to the disappearance of progesterone secretion by the ovary. But the outstanding menopausal change is the sharp fall in the excretion of estrogens, generally followed by a rise in pituitary gonadotrophins. The logical treatment for this menopausal revolution in the hormone field seems to be substitution therapy, aiming at restoring, at least partly, the normal premenopausal hormone balance. Progesterone has no effect on menopausal troubles in most menopausal patients but you can rapidly and completely relieve the symptoms by giving estrogens. Androgens, sedatives and tranquilizers are all helpful in some ways, but none of them is anything like so efficacious as the estrogens.

Moderator: Yes, this is rather a fundamental point. When we embark on hormone therapy to help women over their change of life, what should be our aim? Should we try to devise substitution therapy so as to restore the normal premenopausal hormonal balance? Is there no danger that our therapy will interfere with the natural tendency of the woman's hormone system to attain a new balance at different levels? Dr. Hamblen, what's your opinion?

Dr. Hamblen: Yes, I don't quite agree with Dr. de Watteville. You see, the basic cause of the change is an intrinsic failure of the ovaries, and one cannot prevent this with estrogen therapy or anything else, so far as I know. What we do is not to aim at full substitutional therapy with estrogens because we might impede the normal scaling down of different functions, the adjustment of different glands, the homeostasis—which is a part of the change of life. No, I feel that when we use estrogens at the time of the change, to relieve the usual subjective symptoms, our aim should be palliation and not full substitution. This means that our dosage schedules should last only a relatively short time and the dosage should be gradually reduced. Properly planned estrogen therapy can be a great help to women in adapting their hormonal balance, but the longer the administration of estrogen is continued at full substitutional levels the more difficult it becomes for a woman to adapt herself to this new situation.

Dr. Bishop: I think the point that has been raised here is an important one that we should go into more fully, and that is the duration of the menopause. I know some people who say that it is better not to give estrogens at all but to let the woman go through a rather uncomfortable and sticky menopause for a few months and then she'll be finished with it. Whereas, if you give estrogen it prolongs the menopause indefinitely. Now that's not my idea about it—it seems to me that the menopause may go on for many months or even years whether it's treated or whether it's not treated. I think therefore that there is an indication for treating the menopause rather than leaving it alone. I do think it's important, as Dr. Hamblen has said, to give low doses and not necessarily complete physiological substitution. I personally like to find the lowest dose which will relieve the menopausal symptoms and then give it for a certain period of time,



always remembering to leave intervals between successive courses of perhaps 6 or 7 weeks with a week or 10 days' interval. I think that's an important thing.

Moderator: I think this is an important question especially for the general practitioner and I know Dr. de Watteville has special views on this subject.

Dr. de Watteville: Well, I quite agree with Dr. Bishop on the general principle of interruption of estrogenic treatment. Lipshutz in his animal experiments has already shown that you may get harmful pathological uterine and mammary growth by giving very small doses of estrogen for a prolonged period of time, whereas heavy dosage given by injection at one time and followed by a prolonged interval without any treatment didn't do any harm. I therefore think it is important to respect this rhythmic pattern which also is known to be the physiological one in women who are still having their menstruation; and I personally prescribe treatment by injections or by mouth during about three weeks' time, followed by ten days without treatment. That makes it very easy—the patient will start with the treatment at the first of the month, going on until the 20th and then a free interval until the first of the following month. But, of course, it's impossible to give a foolproof schedule on the treatment with estrogens—we have to adapt the dosage according to the reactions in the individual, and the sensitivity to estrogens may be very different from one patient to the other.

Now, another problem I mentioned, androgens—when I say they may be a useful addition to the estrogen treatment. Dr. Bishop said that he may observe withdrawal bleeding sometimes if he is giving for 6 to 7 weeks low dosage of estrogens. I think that I could observe as well. And I think that we should try to prevent such a menopausal interval bleeding which may cause some fear of cancer and may make curettage necessary to rule out such a possibility. We have cause to try to stick to the lowest possible dosage of estrogen—but still estrogen alone in many cases may not be sufficiently efficacious or if you give a little more, it may lead to such bleeding or if you give a little bit more, it may also lead to some painful swelling of the breasts. Now, if you give androgens I think you may reinforce the action of the estrogen on the general feeling of well-being and you have also a similar effect on the vaginal epithelium and the proliferation and the glycogen content in the epithelial cells, so you have a useful effect on the vagina. You may come to complete relief of the menopausal symptoms without withdrawal bleeding, without painful swelling of the breasts, without harmful growth of the endometrium.

Moderator: We shall be coming back to this androgen question a little later on. Dr. Gray, what are your indications for estrogen therapy in postmenopausal women? Do you decide whether to prescribe estrogens on the basis of your findings on the vaginal smear?

Dr. Gray: I believe that any woman who is still menstruating, who has a thick vagina, who has a full estrogenic effect, never needs estrogenic hormone under any circumstances. That no woman who is menstruating should be treated with estrogen. After the menstruation has ceased, still, she should not



have estrogen therapy as long as the vagina is thick, as long as she has the estrogenic effect and that may continue a few months or two years, or, in some, indefinitely. But if there is an atrophic smear, that is the shedding of the parabasal cells, and if she has symptoms, then we may expect excellent relief of her symptoms with substitution therapy. Not every woman needs treatment, of course. Now I differ with the gentlemen who have spoken regarding the cyclic administration of estrogen. I do not see any reason why we should prolong this cyclic difficulty of the up and down effect of estrogen and, of course, even worse the progesterone, because the premenstrual tension is related to progesterone entirely. And that anyone should have to continue that up and down variation in those months and years to come seems unnecessary to me. Now we use the very smallest amount of estrogen that will give an estrogenic effect in the vaginal smear and, of course, we used to use the hypodermic medication, but now practically never use it. We don't use stilbestrol because it causes nausea in a certain number of people, we don't use ethinyl estradiol very often because of headaches and nausea in occasional people and we prefer conjugated estrogens in its smallest amounts, a dosage of 0.3 mg. daily indefinitely.

Moderator: Dr. Greenblatt, you wanted to say something?

Dr. Greenblatt: Yes, if I may. I think Dr. Gray is treating the vaginal smear and not the patient. I know of many patients who have moderately good estrogenic smears on examination and still have many of the symptoms of the menopause. I think it is important to treat the patient regardless of the estrogenic or hypoestrogenic smear obtained.

Moderator: Dr. Gray?

Dr. Gray: But I insist that those symptoms of hot flushes, of nervousness, of all the other symptoms she might have, if she has a full estrogen smear, are due to nervousness, anxiety and no effect whatever or relation rather, to estrogen, the ovaries, the adrenals or to anything else.

Moderator: Dr. Hamblen, I think you would like to say something.

Dr. Hamblen: I'm so happy Dr. Gray said what he did because that is just what I had in mind. These are the people who in my opinion need tranquilizers, let's give them tranquilizers, if they need estrogens, let's give them estrogens.

Dr. Greenblatt: Are tranquilizers less dangerous than estrogens?

Dr. Hamblen: No.

Dr. Wijsenbeek: I think that on this side of the Atlantic some of the gentlemen are longing to say a few words here.

Dr. Diczfalusy: Oh, well, just for the sake of argument, I would like to ask Dr. Gray—What is the evidence that the premenstrual tension that you mention is related to progesterone, is there any definite evidence on that point?

Dr. Gray: Clinically, there certainly is. It is related to the last half of the menstrual cycle. If we prevent ovulation I think premenstrual tension is prevented. On the other hand, this up and down effect of estrogen—or the deprivation



of estrogen—is bound to cause some slight recurrence of the symptoms which we are treating in the first place.

Dr. Wijsenbeek: I think at this stage we ought to have the benefit of Dr. Bishop's investigations into the choice of drugs, dosage, and combining estrogen and androgen.

Dr. Bishop: Some time ago I undertook a clinical study of the relative potency of different estrogens and I did find that compared with stilbestrol, ethinyl estradiol is about 25 times more potent and conjugated equine estrogen about half as potent. I personally use, now, conjugated equine estrogen because it has few, if any, toxic effects. And with regard to the question of androgens, I do not use androgens myself, although I have been impressed with the argument that Professor de Watteville has just presented about the well-being effects and the anabolic and anti-estrogenic effects that you get with androgen. But I have seen recently, for instance, in the last three months, 5 patients who have been treated with a combined tablet of 0.005 mg. of ethinyl estradiol and 3 mg. of methyltestosterone 3 times daily or even 3 pills 3 times a day for months and have developed hirsutism. I think that if one bears that in mind and uses androgens intelligently, then they may be of some use. But, we are talking now to the general practitioner, and I think it's important to warn him if he gives androgens indefinitely and without adequate control that he is going to run into this sort of danger.

Moderator: Are your findings the same, Dr. Hamblen?

Dr. Hamblen: Well, we disagree a little bit with Dr. Bishop. I feel that conjugated equine estrogens probably are just about as potent as diethylstilbestrol when we judge the potency on the production of hemostasis in functional uterine bleeding or on the production of withdrawal bleeding in amenorrhea. Our figures essentially are 1.25 mg. of conjugated estrogens equal 1 mg. of diethylstilbestrol.

Moderator: Dr. Gray, do you want to say something?

Dr. Gray: Before we pass away from the mixtures of estrogens and testosterone, may I make a remark. Two or three years ago, we thought that a mixture would prevent the bleeding effect of estrogen on the one hand, and that the estrogen would prevent the masculinization on the other hand, and we'd have a wonderful metabolic compound for men and women, and it sounded very good. We have been using our conjugated equine estrogen 6/10 mg. to 5 mg. of methyltestosterone. We have found that it takes 25 mg. of methyltestosterone to neutralize that amount of estrogen so that obviously the amount of 5 mg. is of no value in affecting that estrogenic effect of the medication. On the other hand, the testosterone effect comes through regardless of the amount of estrogen. No estrogen can minimize or neutralize the androgenic effect of any testosterone if it's there. And even 5 mg. given daily of methyltestosterone for three months or longer will almost invariably cause some degree of virilism, and this medicine is not indicated in young women, I mean women being menopausal by cell, I mean that's young. It is not indicated in the treatment of the menopause. On the other hand, the elderly woman with a fractured spine,



with marked demineralization—I should think that the mild virilism is of no importance whatever in regard to her general health. Do you agree, Dr. Hamblen?

Dr. Hamblen: Absolutely. Absolutely.

Moderator: Dr. de Watteville, will you tell us when you would use implants, or when you'd prefer long-acting preparations, and when you stick to oral medication?

Dr. de Watteville: First of all I would like to speak of implantation of pellets. According to what I have said before, it seems to me to be not reliable, neither a harmless way of estrogen treatment. At least in patients who still have their uterus this continuous resorption of the pellet may well lead to excessive pathological uterine endometrial proliferation as well as to painful and excessive stimulation of the mammary gland. Between oral treatment and injections there is no basic difference—it's a question of what the patient herself prefers and there are patients who say they like more to have one shot and not to think of this medication than to take every day one or more tablets by mouth. On the other hand, I have found that the action, the effect of estrogen given by injection, comes on more rapidly than if we start by mouth. And with ethinyl estradiol, which was the substance I prescribed by mouth, there were some side effects like nausea, dizziness, and so on. If I start with that and the effect is not sufficiently rapid and full and if there are side effects the patient may stop the treatment, do nothing, or she may even, what is worse, change the doctor.

Moderator: You mentioned the advantage of combining androgens with your estrogen therapy when you are planning a substitution regimen. What is the rationale of the androgens here? Are they put in to stop the estrogens producing uterine bleeding in women whose natural menses have ceased?

Dr. de Watteville: Well, I think we already had an argument and for the moment I am in the position of a minority, but I still would like to say a few words more in favor of this combined treatment. I quite agree on the danger of virilization, even if you use combined medication. Now if the patients are warned and observing themselves, you may stop the androgens in time before severe virilization has occurred, and if stopping at this moment the androgen, I think you will observe a rather rapid regression of the virilization symptoms. It is difficult to give a definite schedule, and I think we should base our treatment and the proportion of estrogens and androgens according to the aspect of the vaginal smear, and we should maintain roughly a percentage of 10 to 15 superficial eosinophilic cells. The practitioner can also observe the action of the breasts and the aspect of cervical mucus.

Moderator: I expected that opinions would differ on this question of the androgens. Dr. Bishop, what is your view?

Dr. Bishop: This treatment of the menopause does require the control or supervision of specialists who really do know what they are actually trying to do with it. I feel that if the patient is allowed to go away with the tablets by herself and just take them when she feels like them, and not return



to see her doctor or the specialist, then she is likely to get into trouble. I think, on the other hand, if the case is closely supervised by an expert, then, undoubtedly, one can use androgens for their good anabolic effect.

Moderator: Now we must come to what seems to me the peak of this discussion. I mean the question of cancer. By treating women with estrogens to relieve their menopausal symptoms or stave off the ravages of middle age, are we raising their chances of getting carcinoma of the breast or uterus? Are exogenous estrogens carcinogenic? Dr. Bishop, I believe you have some reassuring figures to give us?

Dr. Bishop: Well, here, I think we've got to distinguish between endogenous and exogenous estrogens. I think there is a certain amount of evidence that endogenous estrogens may be carcinogenic. Postmenopausal breast cancer is five times as common in women who have a late menopause than in the whole postmenopausal group. And it is suggested that cancer of the breast often runs a fulminant course in pregnant women who have a very high blood-estrogen level. Then again, what we call "chronic cystic mastitis" may possibly be attributable to an excess or prolonged action of endogenous estrogen and may be precancerous. Moreover, so far as the uterus is concerned, there is a significant association between the estrogen producing granulosa-cell tumors of the ovary and endometrial carcinoma. But when we come to consider exogenous estrogen, I think that the picture is a little different. There have of course been disquieting reports of endometrial carcinoma developing in women who have previously been treated with estrogens. One of the most significant of these reports comes from Jensen and Ostergaard, who found that 33% of a series of 105 women with endometrial cancer had previously been vigorously treated with estrogen, compared with only 21% of a control series. But most of the reports deal with isolated cases, recorded to draw attention to the association between previous estrogen therapy and subsequent uterine cancer. But what one wants to know is how many women treated with estrogens do in fact develop cancer of the breast or uterus later. Now this is a very difficult thing to answer, and I think probably it will be impossible to answer it to the satisfaction of the statistician. However, Dr. Moyra Murray and I set out to study the problem by trying to trace 1,029 of my women patients who had been taking estrogens (not necessarily continuously) but for periods of at least six months between 1937 and 1956. We finally succeeded in getting the information we wanted from 530 women. Out of these 530 patients, only one, a woman of 41, developed breast cancer shortly after finishing a two years' intensive course of estrogens for persistent lactation. Another woman developed a carcinoma of the uterus at the age of 48, four years after receiving small doses of estrogen intermittently for five years. So there were only 2 cases of cancer of the breast or uterus in over 500 women on estrogen therapy. We then studied the association from another angle by interviewing 120 women with carcinoma of the uterine body, and we found that only 5 of them had taken estrogens for longer than a year. Now obviously we cannot claim that our studies prove that exogenous estrogens are not carcinogenic, but they have satisfied me that we are justified in using these drugs for the treatment of menopausal symptoms.



Moderator: I also think that is some striking evidence, Dr. Bishop. Do you find it reassuring, Dr. Hamblen?

Dr. Hamblen: Well, I certainly feel that Dr. Bishop's data are most gratifying. I feel a woman can have estrogen therapy when it is indicated, without any fear of cancer. I think the late Dr. Kost Shelton, of Los Angeles, California, supplied data from a different source that was quite reassuring. He quoted the figures from the U. S. Department of Health, Education and Welfare, the U. S. Public Health Service, and the National Office of Vital Statistics which indicated that for various age groups there was no increase in deaths from cancer among the white population, either cancer of the uterus or cancer of the breast in 1930 and in 1950. In other words the data for 1950 were just as good or poor, whichever point of view you have, as for 1930. And, of course, in 1950 we had the reflection of much estrogen therapy. It has been estimated that each year 700 kg. of natural and synthetic estrogens are manufactured or imported into the United States every year, and this amount would be enough to treat 7 million women with 1 mg. of estrogen a week for a year; and certainly this did not produce any increase in breast or genital cancer as judged by vital statistics.

Moderator: Can we sum up what we have agreed on, and perhaps also what we have found too controversial for agreement? Dr. Greenblatt, ought we to use estrogens at all?

Dr. Greenblatt: Definitely. I feel no doubt about that. These drugs should certainly be made available for the large number of women who can largely be benefited by them.

Moderator: Can you be more explicit? What classes of women have you in mind?

Dr. Greenblatt: Well, the class of women that we see between the ages of 40 and 65 and 70 years of age have such a variety of symptoms that one can't always say that this is due definitely to the menopause or hypoenestrogenic metabolism. At any rate, we do know this much—that in many of these patients on a trial of steroid therapy, whether with estrogens alone or estrogens and androgens, we get definite, specific beneficial effects and I think it is worthwhile giving them a trial.

Moderator: Very good. We have talked a good deal about the sources of estrogens after the menopause—can we at least agree to differ on this question which is rather too theoretical to deal with at great length. Dr. Diczfalusy, can you sum up briefly what we have decided and where we differ?

Dr. Diczfalusy: Well, I should say that the good answer might be provided on this question in experiments in which the estrogen excretion is estimated in post-menopausal women before and after ovariectomy, and before and after adrenalectomy. As the first result of our transatlantic conference we in Stockholm are going now to initiate some studies, so that when we meet next time for such a cable conference, and I certainly hope that this will become a sort of a habit with us, we might have some information on this point.

Moderator: Thank you.



Now about the choice of drugs. You must choose between using natural estrogens or modified natural estrogens or preparations of conjugated estrogens excreted in the urine of pregnant mares, and there is another class consisting of synthetic estrogens, e.g., stibestrol, and, finally, there are the androgens used to supplement estrogen therapy. Dr. Bishop, do you agree with that classification?

Dr. Bishop: Yes, I think that is a reasonable classification. I think perhaps it is a little too complicated for the subject we have in mind at the moment. I think most of us have agreed here that we would use natural estrogens rather than synthetic estrogens because of the likelihood of producing toxic effects with the synthetic compounds. And I think a number of natural estrogens are available now that are quite effective, of which one that we have heard a lot about is conjugated equine estrogens. As to the androgens, I don't think at the moment that we have sufficient evidence of any new androgens which are of any particular advantage over the quite small doses of methyltestosterone which would be required in this particular situation.

Moderator: Now we come to the hardest question of the lot. I mean the question of side effects. We must decide whether we can give estrogens a clear bill as regards cancer production. There is still a strong feeling among practitioners that this risk is too serious to take. Dr. Bishop, you have studied this question more thoroughly, perhaps. Do you think you can take a definite step from your results?

Dr. Bishop: Well, I've put forward the actual figures we have studied and, to my mind, they reassure me that we can use estrogens in the right dosage, and, so long as we do not use them for too long a period of time, without fear of producing cancer. But I do think we should emphasize even here that we have got to use a certain amount of skill in our treatment of the menopause. I still would not like to see unnecessary high doses of estrogens being given continuously over a long period of time—but I think if we use the estrogens in the lowest possible dose and with interruptions, then there is little fear of producing cancer.

Moderator: Could either Dr. Hamblen, or Dr. Greenblatt, or Dr. Gray tell us how they think on this question?

Dr. Greenblatt: I'm not so sure that there is any evidence whatsoever that estrogens ever cause cancer. I've always looked upon hormones as catalytic agents. Hormones may accelerate cancer growth, they may inhibit cancer growth, but I doubt whether estrogens can initiate carcinoma—they don't initiate biologic activity—they facilitate and hasten and modify.

Moderator: And Dr. Diczfalussy?

Dr. Diczfalussy: Well, I can only say something from the laboratory point of view. I think that certainly estrogen therapy is of very great value in the hands of the gynecologist or of an endocrinologist. I wonder, though, if I were a general practitioner, whether I wouldn't consult such specialist when embarking on long term estrogen therapy in postmenopausal women.



Moderator: Dr. Gray would like to say something here.

Dr. Gray: Dr. Wijssenbeek, I believe there is one point that we would disagree with, or that we should clarify, and that is, who should treat patients with menopausal symptoms or who should use estrogen therapy. I'm sure that my conferees here believe completely that the general practitioner is quite capable of using estrogen therapy—that we only reiterate something that he knows well—that not only he, but we, must examine our patients carefully, we must follow them with care, we must not give them the estrogen to go away and not come back. That they must have their pelvic examinations regularly, that they need their psychotherapy to go with it, their encouragement, not only psychotherapy, that emotional uplift, that we need as much as they need in our lives.

Dr. Wijssenbeek: So, we set out to decide whether to use estrogens and the answer is—most certainly, they should be made available to all women who need them. The purpose will be mostly to relieve symptoms temporarily during the “change” and to stave off the effects of aging on the rest of the woman's life. Then, in regards to the details of administration, we recommend the oral route wherever possible and strongly emphasize the need for the smallest possible dosage. We also emphasize the need for intermittent dosage. We do not feel sure that it is safe to give these drugs for more than three or four weeks without an interval. Lastly, we feel safe in reassuring practitioners that, provided they keep to the minimum dosage of intermittent administration, they are not increasing the chances of their patient developing cancer.

#### LILLY ROAD SHOW TO BE HELD IN SELMA

The first Eli Lilly “Road Show” Program in Alabama will be held in Selma on June 16, it was announced recently by Dr. William E. Ehlert, president of the Black Belt Chapter.

Dr. Ehlert pointed out that the Eli Lilly and Company has long been interested and very much impressed with the postgraduate educational program of the American Academy of General Practice.

Because of this interest, the Indiana pharmaceutical company developed a program several years ago to help defray expenses of putting on postgraduate educational seminars in the less populated areas of Indiana where Category I hours were not readily available.

In 1958 the program, dubbed as the “Road Show” by Indiana general practitioners, was extended to other states. It has proved so successful that Eli Lilly and Company in cooperation with the Commission on Education of the American Academy is extending the

program again this year to additional states. Alabama has been selected as one of the states eligible to participate in the program.

Speakers for Alabama's first “Road Show” seminar will be Dr. Marshal L. Michel and Dr. Samuel B. Nadler of New Orleans, Louisiana.

Dr. Michel is an associate professor of surgery of Tulane University, senior surgeon of Touro Infirmary and senior visiting surgeon at New Orleans Charity Hospital.

Dr. Nadler practices internal medicine and is a professor of clinical medicine at Tulane University School of Medicine.

They will discuss the medical and surgical aspects of diseases of the stomach and duodenum as related to the general practitioner at both sessions of the “Road Show”.

The first session of the program will be held at 3:00 p.m. at the Selma Country Club, and the second session will be held following a social hour and barbecue.

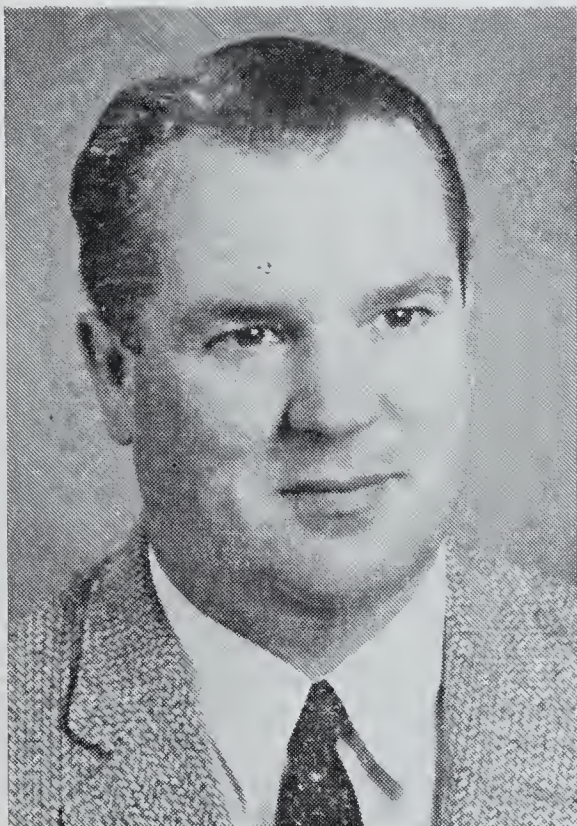




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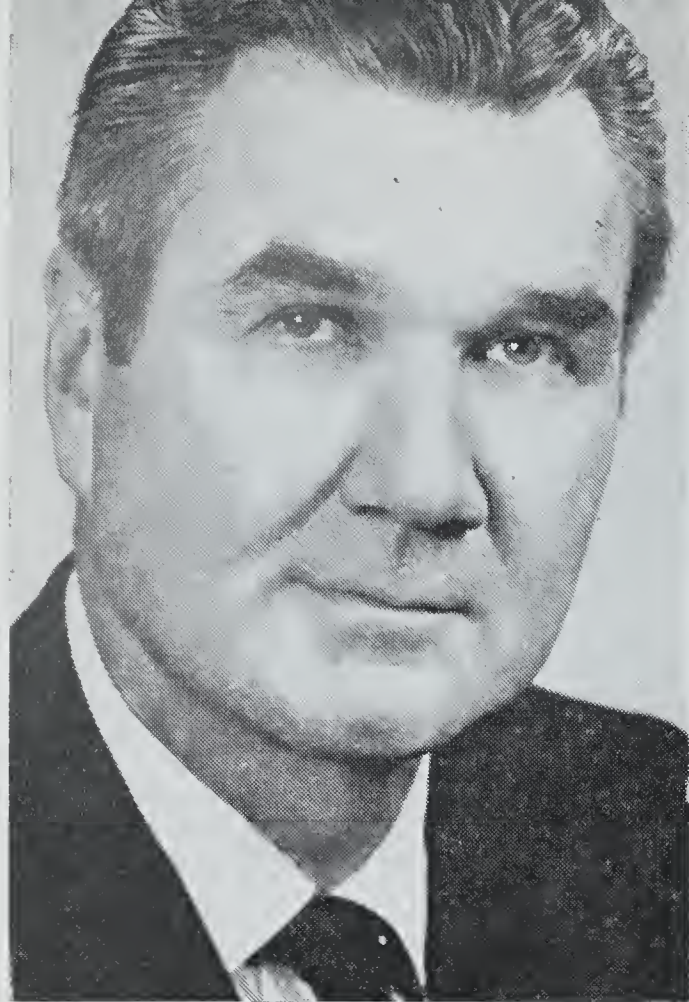


SPECIALISTS at the Annual Session in Mobile last month heard Drs. Martin J. Sokoloff (left); Joe Reeves (center); Patrick A. Ongley (below left) and Dan Beecham (below right) speak on clinical cough, heart disease, and hysterectomy.





## INTERNATIONAL COLLEGE OF SURGEONS



Members of the Alabama Section of the International College of Surgeons meeting in Tuscaloosa on May 25-26 will hear Drs. Walter G. Hayes (above); Daniel C. Riordan (right); William A. Maddox (center); Robert J. Meade (below left); Felix A. Hughes, Jr. and Jewitt E. Wheeler (below right).







## MEDICAL CENTER NEWS

### HEART ASSOCIATION NAMES DR. HEFNER AS INVESTIGATOR

Dr. Lloyd L. Hefner, assistant professor of medicine, has been chosen for one of the American Heart Association's investigatorships in cardiovascular diseases.

This award, which will cover a five-year period, is to be used for development of a method for direct measurement of total energy production of the animal heart and later of the human heart.

Under its national research program, the American Heart Association is supporting 176 scientists throughout the country in basic and clinical studies of cardiovascular problems.

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### SCIENTIFIC MEETINGS FEATURE MEDICAL CENTER STAFFERS

#### Academy of Science

Twenty-two members of the Medical Center spoke at the meeting of the Alabama Academy of Science at Huntingdon College in Montgomery on April 1-2.

Drs. Barbara P. McClung and Robert W. Longley lectured on "The Colorimetric Determination of Sulfhydryl Groups Using N-Ethyl Maleimide"; Drs. Roger W. Hanson, R. H. Lindsay and S. B. Barker lectured on "The Effect of Thyroxine on Carbon and Nitrogen Balances During Proline Metabolism by Kidney Slices"; Drs. R. H. Lindsay, R. W. Hanson and S. B. Barker talked on the "Effect of Ammonia and pH on Thyroxine Maintenance of Kidney Metabolism *in vitro*."

"Purification and Further Characterization of the TPN-Specific 17-Beta-Hydroxy (Testosterone) Dehydrogenase," was the topic of Drs. Gerald L. Endahl and Charles D. Kochakian. Drs. C. D. Kochakian, G. Costa and J. Hill spoke on "Effect of Testosterone on the Metabolism and Incorporation of Glycine-2-

C<sup>14</sup> in Guinea Pig Tissues", and Drs. B. R. Endahl and C. D. Kochakian lectured on "The *In Vitro* Inhibition of Reduced Diphosphopyridine Nucleotide Oxidase of Guinea Pig Liver."

Drs. Y. Hashimoto, S. Tsuiki, and Ward Pigman lectured on "Bovine Submaxillary and Sublingual Mucins"; Drs. S. Rizvi, W. Pigman, and H. L. Holley spoke on "The Stability of Hyaluronic Acid under Various Conditions"; Dr. Robert D. Yates talked on "The Proliferation of Ganglion Cells on the Chick Chorioallantoic Membrane"; Dr. Gilbert J. Parfitt spoke on "An Investigation of the Structures Supporting the Teeth by Means of Force-Movement-Time Studies," and Dr. Mervyn B. Quigley lectured on "Microradiography of Bone and Teeth."

"Experimentally Produced Hardness Changes in Dentin," Dr. Ivar Mjor; "Insulin Reserve as Indicated by the Tolbutamide Tolerance Test," Drs. Buris R. Boshell, Fred Vroom, and Jack Strong; "Intradermal Skin Test in Systemic Lupus Erythematosus," Drs. Claude Bennett and H. L. Holley; "Serum Viscosity Studies in Rheumatoid Arthritis," Drs. Fletcher S. Stuart and H. L. Holley.

"James Somerville McLester: Scientist-Physician," Dr. Emmett B. Carmichael; "Renal Excretion of Endogenous Metabolites. Reversal by Glycine of Inhibition of Urate Excretion." Dr. Howard C. Elliott and Dr. H. V. Murdaugh, Jr.; "Biochemical Studies of Toxicity. Microdetermination of Thymol in Aqueous Solution," Dr. A. A. Walker; "Components of the Vagus Nerve of the Rhesus Monkey," Drs. H. H. Hoffman, H. N. Schnitzlein, A. C. Hinton, and M. B. Quigley.

"The Gross Anatomy of Cervical Sympathetic Trunk in the Rhesus Monkey (*Macaca Mulatta*)," Dr. Marion Garrett; "Electron



Microscope Studies of Cellular Membranes in Glandular Tissue," Dr. John M. Shackelford; and "Simple Method for the Measurement of Lamé's Elasticity Parameters of the Wall Material of Cylindrical Tube with an Homogeneous, Isotropic, Elastic Wall," by Drs. Curtis Adams, Sachiko Hashimoto and Willem Klip.

#### Anatomical Congress

Seven members of the anatomy staff attended the Seventh International Anatomical Congress in New York City on April 11-16.

Representing the Medical College were Drs. E. Carl Sensenig, Earl G. Hamel, Henry Hoffman, Eleanor Hunt, Thomas Hunt, C. E. Klapper, Mervyn Quigley and H. N. Schnitzlein.

Titles of their papers were "The Vagus Nerve of the Rhesus Monkey" and "Blood Basophils and Mast Cells in the Rabbit after Intravenous Injection."

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#### MEDICAL SENIORS GET INTERNSHIP ASSIGNMENTS

Seventy-one medical college seniors have received their internship assignments under the National Intern Matching Program. They will spend their first postdoctoral year at 22 hospitals in the United States and in two armed service branches.

Eleven of the class are to intern at the Medical Center. They are James C. Davie, Lincoln; Wayne H. Finley, Lineville; William Guy Head, Jr., Gadsden; Marvin Johnson, Selma; Ellann McCrory, Butler Springs; Daniel E. Merck, Birmingham; John F. Nickerson, Gadsden; Ernest L. Park, Jr., Mobile; Fletcher S. Stuart, Birmingham; Carolyn L. Tucker, Brookwood and Walter Y. Walker, Huntsville.

Lloyd Noland Hospital in Fairfield will also get 11 Alabama graduates as interns, and St. Vincent's Hospital will receive eight. Those going to Lloyd Noland are Fred C. Ballard, Don Bedsole, Jack M. Dabbs, and Edgar M. Daly, Birmingham; James A. Ellis, Jr., Dothan; Wayne Johnson, Rodney Ott,

and Frances M. Patton, Birmingham; William A. Taylor, Chatom; Harold R. Wells, Birmingham, and Ann B. Wouters, Gadsden.

St. Vincent's interns will be Thomas Bolding, Birmingham; George M. Cooper, Tuscaloosa; Alpheus M. Deason, Birmingham; Stanley W. Griffin, Troy; Ann L. Harper, Birmingham; Glenn S. Hooper, Bay Minette; Joe E. Jackson, and Morgan J. Litzinger, Jr., Birmingham.

Assigned to the Mobile General Hospital under the program are Jeff H. Beard, Auburn; Robert B. Mardre, Jr., Opelika; Jerry Swindall, Goodwater, and Walter M. White of Bessemer.

Interning at Carraway Methodist Hospital will be Paul F. Ketcham, Lineville; Walter N. Pearce, Birmingham, and John O. Tingley, Trussville.

The Medical Center in Columbus, Georgia, will receive Dudley Bickham, Auburn; Grady Jones, Trafford; Janice H. Jones, Scottsboro; Douglas Land, Gilberttown, and Roland Murphree, Oneonta.

Going to the Medical College of Virginia will be Beatrice Lampkin, Tuscaloosa; Kurt M. Niemann and Frances R. Pritchett of Birmingham.

Jordan K. Davis, Mylan S. Tucker and Wilson C. Wilhite, Jr. of Birmingham will intern at Jackson Memorial Hospital in Miami.

Others to intern at Florida hospitals will be Priscilla A. Keeler, Tuscaloosa; Arthur G. Piano, Lisbon, Portugal and William R. Walton of Birmingham, Mound Park Hospital, St. Petersburg, Florida; Robert L. Hayes, Jr., New Brockton, Orange Memorial Hospital in Orlando.

Richard H. Cord of Birmingham will intern at the University of Texas Medical Branch Hospital in Galveston and Charles C. Douglass, Birmingham, and Annie E. Lindsey, Abbeville, will go to Hermann Hospital in Houston.

Going to Eastern hospitals will be Thomas A. S. Wilson, Birmingham, Johns Hopkins Hospital; Werner N. Knurr, Montgomery,



Philadelphia General Hospital, and Sheldon Skinner, Jr., Eutaw, Grace Hospital in New Haven, Conn.

Interning in the midwest will be Paul B. Eckman, Fitzpatrick, Henry Ford Hospital in Detroit, and David E. Bowers, Birmingham, and Myron A. Levine, Clanton, at the University of Minnesota Hospital in Minneapolis.

Remaining in the South, Robert S. Flowers, Tuscaloosa, will intern at Louisville General Hospital and Robert R. Daniel, Montgomery, will receive his training at Baptist Memorial Hospital in Memphis.

Going into the United States Air Force will be John W. Hicks, Jr., Quinton; Bobby C. Merkle, Lincoln; Jimmy C. Sheppard, Dothan, and Robert P. Turk of Hopelawn, New Jersey.

Army Medical Service Hospitals will receive John Emanuel Semon, Mobile; James T. Townsley, III, Florence, and Ralph J. Watson, Orrville.



DR. LAZARTE JOINS STAFF  
IN PSYCHIATRY AND NEUROLOGY

Dr. Jorge A. Lazarte, former assistant medical superintendent at Rochester State Hospital, has joined the Medical Center as associate professor of psychiatry and assistant professor of neurology.

A native of Peru and naturalized American citizen since 1949, Dr. Lazarte held a post-doctoral fellowship in neurology and psychiatry at the Mayo Clinic in Rochester after earning his M. D. at the University of San

Marcos in Lima, Peru. He received the M. S. degree in neurology and psychiatry from the Mayo Foundation and Graduate School of the University of Minnesota in 1946, then joined the faculty there and the staff of Rochester State Hospital, where he became assistant medical superintendent in 1947. Dr. Lazarte is a diplomate in neurology of the American Board of Psychiatry and Neurology.

Research done by Dr. Lazarte has been in intracerebral electrography and electrical stimulation and in clinical, social, and biochemical studies of Huntington's chorea. He has published more than 20 scientific papers and is an active member of seven professional organizations.

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DR. PIGMAN APPOINTED  
NYMC DEPARTMENT HEAD

Dr. Ward Pigman will leave the Medical Center this fall after 11 years on the faculty to become professor of biochemistry and chairman of the department at New York Medical College.

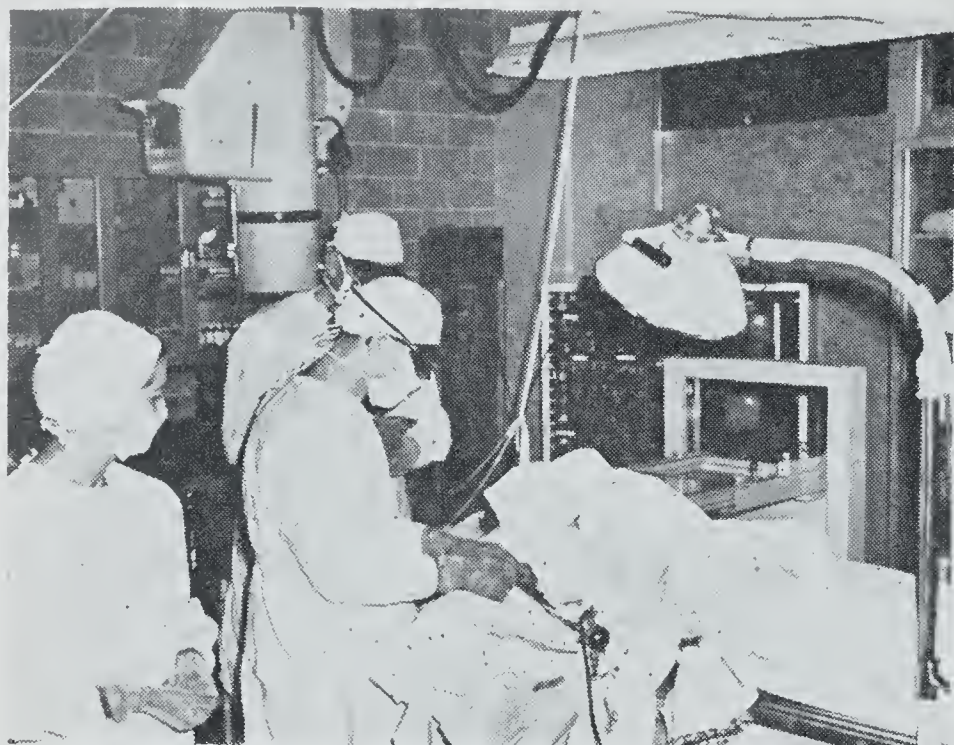
He will serve as visiting professor here, spending part of his time at the Medical Center, for at least a year after he takes over his new post.

Associate professor of biochemistry here since 1949, Dr. Pigman has made important contributions in research, particularly in his work with carbohydrates and enzymes. He has also directed, with Dr. Howard L. Holley, the Arthritis and Rheumatism Research Laboratory.

Dr. Pigman is a consultant for the National Institutes of Health, United States Navy, and the National Research Council. He is also author of *The Carbohydrates* and some 200 scientific papers and is editor of the first four volumes of "Advances in Carbohydrate Chemistry." A past chairman of the Division of Carbohydrate Chemistry of American Chemical Society, Dr. Pigman received the society's C. S. Hudson Award in 1959.

Dr. Pigman earned the B. S. and M. A. degrees at George Washington University and his Ph. D. at the University of Maryland.



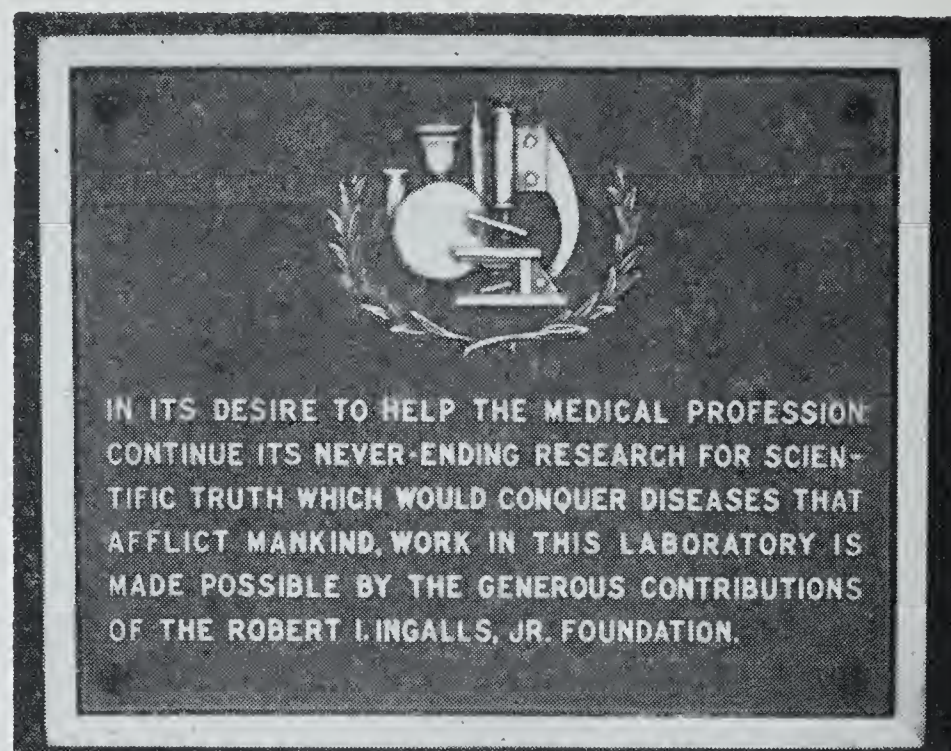


**CARDIAC CATHETERIZATION LAB**—This laboratory on the third floor of the Research Building was recently equipped by a grant of the Robert I. Ingalls Jr. Foundation. Research work in the lab will also be supported by the Foundation.

Support of research of the Medical Center by the Robert I. Ingalls, Jr. Foundation was spotlighted March 27 with the ceremonial unveiling of a bronze plaque which will hang in the laboratory unit that the foundation's donations helped to equip.

The Sunday afternoon program, held in the Research Building lobby, was followed by a tour of the cardiac catheterization laboratory and other parts of the department of medicine's cardiovascular research section. The Ingalls Foundation, "in its desire to help the medical profession continue its never-ending research for scientific truth which would conquer diseases that afflict mankind," has long supported the work of this unit.

J. Carter Hammel, Ingalls vice-president and treasurer, represented the foundation at the ceremony. Medical Center speakers were Dr. Robert C. Berson, University vice-president for health affairs and dean of the Medical College, who presided; Dr. Joseph F. Volker, dean of the School of Dentistry and director of research and graduate studies, who unveiled the plaque and commented on the importance of private contributions to institutional research; and Dr. Tinsley R. Harrison, professor of medicine and director of the department's cardiovascular division, who described the work of the cardiac research unit.



**BRONZE PLAQUE**—This plaque was dedicated on March 27 to commemorate the Ingalls grant. The plaque is mounted in the corridor outside the cardiac catheterization lab.

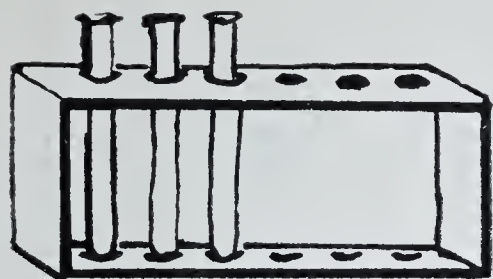
#### **FIRST MEDICAL COLLEGE YEARBOOK IS DEDICATED TO DR. JAMES FOLEY**

*Progress Notes* 1960, the first yearbook of the present Medical College, will be dedicated to Dr. James O. Foley, who for 30 years has instructed University of Alabama medical students in anatomy, serving for 12 years as chairman of the department and for six as associate dean.

To be out early this month, the 160-page book contains, in addition to the dedicatory section, features representing the day-to-day activities of student-faculty life. Thus "Progress Notes," used to denote the charted information on each patient's daily progress, was chosen for the title. This first issue has sections on the faculty with a special salute to 16 faculty members chosen by a committee of seniors, on the administration, house staff, activities, classes, and organizations. The annual also carries a history of the school, covering the entire century since the Medical College was founded at Mobile and describing it as it was there, at Tuscaloosa, and now here.

The yearbook is dedicated to Dr. Foley by vote of the entire senior class. Now professor of anatomy, Dr. Foley joined the Medical College faculty in 1930 after teaching at Oregon State College, University of Wisconsin, and Tulane. From 1951 until 1957 Dr. Foley also served as associate dean of the Medical College.





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.

State Health Officer

### CANCER RESEARCH GRANTS

The application of existing knowledge of preventing and controlling cancer is being given added impetus this year through \$1,500,000 appropriated by the Congress, the Public Health Service pointed out recently. This fund, earmarked for community cancer demonstration projects, is being administered by the Cancer Control Program, Bureau of State Services, Public Health Service, under the technical guidance of the director of the National Cancer Institute.

The types of projects believed to offer the best opportunities at this time for demonstrating better ways of providing community cancer control services are:

1. Professional and technical education in cytology.
2. Screening female beneficiaries of medical care for cancer of the cervix.
3. Selected educational projects, particularly public information and followup services, to emphasize the importance of periodic uterine cytology examinations.
4. Professional educational activities emphasizing the importance of including cancer diagnostic aids in complete health examinations.
5. Selected public educational projects on the desirability of and need for health maintenance examinations.
6. Evaluation of effectiveness of public educational activities.
7. Tumor registers collecting data of exceptional value.

8. Extension and evaluation of rehabilitation programs (in cooperation with State rehabilitation agencies.)

9. Selected projects demonstrating effective treatment for cancer in public beneficiaries of medical care.

The types of projects suggested are not meant to exhaust all possibilities. Other worthwhile locally-sponsored and locally-directed demonstration projects will be considered on their own merits.

Applications are accepted from nonprofit organizations and institutions and official health agencies. The appropriate State health officer and Public Health Service regional medical director are first to review and process applications. The requests are then submitted to the Advisory Committee to the Cancer Control Program and the National Advisory Cancer Council for recommendation of approval or disapproval. Formal action on applications and recommendations is taken by the chief of the Bureau of State Services, to whom authority has been delegated by the Surgeon General.

Projects may be approved initially for as long as three years. When activities are proceeding satisfactorily and funds are available, assistance continues throughout the approved period. In special instances, assistance may include the assignment of personnel and the provision of equipment and supplies. Additional information and application forms may be obtained from the eight regional offices of the Public Health Service. The appropriate address for Alabama is Regional Medical Director, Public Health Service, 50 Seventh St., Northeast, Atlanta 23, Georgia.



DEPARTMENT OF HEALTH

BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

February 1960

Examinations for malaria.....	12
Examinations for diphtheria bacilli and Vincent's.....	59
Agglutination tests.....	494
Typhoid cultures (blood, feces, and urine)....	509
Brucella cultures.....	0
Examinations for intestinal parasites.....	2,611
Darkfield examinations.....	5
Serologic tests for syphilis (blood and spinal fluid).....	23,048
Examinations for gonococci.....	1,663
Complement fixation tests.....	80
Examinations for tubercle bacilli.....	3,629
Examinations for Negri bodies (smears and animal inoculations).....	210
Water examinations.....	1,976
Milk and dairy products examinations.....	4,362
Miscellaneous examinations.....	2,737
Total.....	41,395

March 1960

Examinations for malaria.....	13
Examinations for diphtheria bacilli and Vincent's.....	69
Agglutination tests.....	479
Typhoid cultures (blood, feces and urine)....	569
Brucella cultures.....	2
Examinations for intestinal parasites.....	2,934
Darkfield examinations.....	0
Serologic tests for syphilis (blood and spinal fluid).....	23,098
Examinations for gonococci.....	1,510
Complement fixation tests.....	94
Examinations for tubercle bacilli.....	3,555
Examinations for Negri bodies (smears and animal inoculations).....	252
Water examinations.....	1,733
Milk and dairy products examinations.....	3,799
Miscellaneous examinations.....	3,330
Total.....	41,437

Note: Mobile Branch Laboratory examinations not included.

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1960

	Jan.	Feb.	*E. E. Feb.
Typhoid & Paratyphoid.....	2	0	1
Undulant fever.....	0	2	1
Meningitis.....	6	13	17
Scarlet fever.....	118	100	80
Whooping cough.....	11	5	32
Diphtheria.....	7	4	10
Tetanus.....	2	4	1
Tuberculosis.....	103	95	169
Tularemia.....	3	0	1
Amebic Dysentery.....	33	3	1
Malaria.....	0	0	0
Influenza.....	25,282	67,598	3,025
Smallpox.....	0	0	0
Measles.....	126	270	252
Poliomyelitis.....	0	0	3
Encephalitis.....	2	1	0
Chickenpox.....	126	157	350
Typhus fever.....	0	0	0
Mumps.....	220	591	219
Cancer.....	494	607	396
Pellagra.....	0	0	0
Pneumonia.....	346	600	364
Syphilis.....	115	130	151
Chancroid.....	1	3	5
Gonorrhea.....	293	274	293
Rabies—Human cases.....	0	0	0
Pos. animal heads.....	8	13	0

	Feb.	March	*E. E. March
Typhoid & Paratyphoid.....	0	0	2
Undulant fever.....	2	0	1
Meningitis.....	13	9	17
Scarlet fever.....	100	157	44
Whooping cough.....	5	3	41
Diphtheria.....	4	2	9
Tetanus.....	4	1	2
Tuberculosis.....	94	102	195
Tularemia.....	0	2	1
Amebic dysentery.....	3	1	2
Malaria.....	0	0	0
Influenza.....	67,598	9,055	1,352
Smallpox.....	0	0	0
Measles.....	270	368	761
Poliomyelitis.....	0	1	2
Encephalitis.....	1	1	2
Chickenpox.....	157	170	396
Typhus fever.....	0	0	0
Mumps.....	591	291	285
Cancer.....	607	390	395
Pellagra.....	0	0	0
Pneumonia.....	600	521	289
Syphilis.....	130	160	195
Chancroid.....	3	2	4
Gonorrhea.....	274	291	313
Rabies—Human cases.....	0	0	0
Pos. animal heads.....	13	6	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.



# THE JOURNAL

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## THORACIC SURGICAL PROBLEMS IN FLYING PERSONNEL

LT. COL. FRANCIS E. FOLEY, USAF (MC), F.A.C.S., F.C.C.P.\*

LT. COL. HARRY C. GREEN, JR., USAF (MC)\*\*

LT. COL. WILBER R. WHITSELL, JR., USAF (MC)

and

CAPT. DONALD P. DOUGLASS, USAF (MC)

Air Force physical selection standards for flying personnel are set deliberately high to eliminate acceptance of the unfit and the borderline for training. Despite this, the inroads of time, stress, environment, exposure to strange bacterial populations, and even the hazards of Twentieth Century living will exact their toll from the most elite group. Unfortunately for the individual and the service this toll is often exacted at a time most disadvantageous to both. The Air Force loses a skilled, experienced member of the team, a man difficult to replace. The Airman, after years of training and experience now finds his career closed to him.

The chest and its contents are not immune to these inroads. Faced by the various etiologic factors previously mentioned, flyers respond prosaically with a variety of infections, granulomata, injuries, herniae, cysts, and tumors involving the thorax and its contents.

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Read at the 9th Scientific Meeting of the Alabama Chapter of the American College of Surgeons, Point Clear, Ala., Feb. 17, 1960.

From the USAF Hospital, Maxwell Air Force Base, Alabama.

\*Chief, Hospital Services

\*\*Chief, Department of Surgery and Aviation Medicine Service

The opinions expressed are those of the officers and do not necessarily reflect the opinions or policies of the Department of the Air Force.

Some of these affections are, of their nature, incompatible with flying. In some cases these might not be considered significant diseases, if found in persons of other occupations. Some of these conditions might be handled by medical means in non-flying personnel without hindering the man's career. Conditions which result in or from anatomical abnormality are often amenable to successful surgical correction and most often the patients can subsequently resume their flying careers. The requirement for diagnostic thoracotomy occurs among pilots with about the same frequency as among the general population. It is our experience that these procedures can be performed with no more hazard to their careers than that imposed on the career of any individual under similar circumstances.

Interest in the field of thoracic surgery as it relates to flying personnel is still largely confined to military hospitals. The literature on the subject is rather scanty. Nylander<sup>1</sup> reported, in 1946, that he had removed a huge diaphragmatic cyst from a man who was subsequently restored to Air Force Duty in Finland. He did not state whether this was

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1. Nylander, P. E. A. and Virkari, S. J.; A Study of Intrathoracic Cysts Arising from the Diaphragm, *Ann. Chir. et Gynaec Fenniae*, 37: 99-114.



flying duty. Paul<sup>2</sup> and others, in 1950, remarked that they had returned several pilots to duty following wedge resections and poudrage for recurrent, spontaneous pneumothorax. Smith and Campbell<sup>3</sup> have pointed out the significance in flyers of lesions which might, in others, be considered inconsequential pulmonary and other thoracic lesions. Solomon<sup>4</sup> and others reported a series of unusual pulmonary lesions in flying personnel seen at the hospital at Lackland Air Force Base. We, from Maxwell<sup>5</sup>, have previously discussed a series of twenty-seven flyers who underwent various thoracic surgical procedures in our hands, twenty-three of whom were returned to flying duty. Zarriello and Acker<sup>6</sup> from the Navy School of Aviation Medicine have recently reviewed the history of spontaneous pneumothorax in flight and discussed the indications for surgical intervention.

Flyers' bodies must be able to absorb wide and rapid excursions of ambient barometric pressure and stresses of acceleration forces rarely, if ever, imposed on other persons. The formula for the theoretical expansion of body gasses under conditions of rapid change in barometric pressure is given in *Table I*. If a flyer flying at an altitude of 45,000 feet, where the average ambient barometric pressure is 2.14 pounds per square inch, with his cabin pressurized to 25,000 feet, barometric

TABLE I  
FORMULA FOR CALCULATING BODY GAS EXPANSION

B.P. (c) — 0.91	
B.P. (a) — 0.91	= Theoretical Relative Gas Expansion
B.P. (c)	= Cabin Barometric Pressure, in p.s.i.*
B.P. (a)	= Ambient Barometric Pressure, in p.s.i.
0.91	= Vapor Pressure of Body Gasses, in p.s.i.
*p.s.i.	= pounds per square inch

pressure, 5.75 pounds per square inch, is suddenly subjected to a loss of cabin pressure, euphemistically, equalization of his cabin differential, his body gasses will suddenly expand to 3.93 times their volume at his previous cabin altitude. What now of the innocent apical bleb which we might well ignore in the banker? Similarly, what of gas trapped in a small supradiaphragmatic pouch of stomach, caught in a hiatus hernia? The expansion will not probably burst the stomach wall, but will the pilot be able to control his supersonic aircraft and fight his cramping, substernal pain as well? Positive and negative acceleration or, "g", forces acting on the viscera can enlarge small hernial weaknesses and, conceivably, cause incarceration of the hernial contents. Thus, it seems evident to us that some relatively minor, and indeed even innocuous, conditions, among the general population, may be of serious import to the flyer.

At Maxwell, we have adopted a vigorous and optimistic surgical approach to these problems among our flyers and on the whole we feel justified in offering them an excellent prognosis for the continuation of their careers which would otherwise be cut short. We will present our experience and elaborate on some of our cases.

#### MATERIAL

During the six year period from January 1954 to January 1960, thirty-nine patients reported to our Thoracic Surgical Section from flying status. Of these, thirty-five were officers, pilots, navigators, or observers. Four were airmen, crew members; one of these was a WAF, a stewardess in the Military Air Transport Service. Four patients underwent two procedures, two bilateral resections and

2. Paul, J. S., Beattie, E. J., Jr., and Blades, B.; Lung Function Studies in Poudrage Treatment of Recurrent Spontaneous Pneumothorax, *J. Thor Surg*, 22: 52-58, 1951

3. Smith, E. P., and Campbell, D.; Personal Communication

4. Solomon, R. J., Smith, E. P., and Keil, P. G.; Unusual Pulmonary Lesions in Flying Personnel, *J. Aviation Med*, 29: 371, 1958

5. Foley, F. E., Bear, S. H., Jarman, J. A., and Whitsell, W. R., Jr.; Rehabilitation of the Flyer Following Thoracotomy, *J. Aviation Med*, 30: 113, 1959

6. Zarriello, J. J. and Acker, J. J.; Spontaneous Pneumothorax in Flight, *Aerospace Med*, 30: 418, 1959

7. Flight Surgeon's Manual—Air Force Manual 160-5, Department of the Air Force, Washington, D. C., October 1954



two post resection plastic procedures, for a total of forty-three operations. Our results are summarized in *Table II*.

TABLE II		
SUMMARY OF RESULTS		
Total Operated .....		39
Total Operations .....		43
Returned to Flying .....	32	82.0%
Probable Return .....	1	2.5%
<hr/>		
Total Probable Successful .....	33	84.5%
Permanently Disqualified		
Pulmonary Insufficiency .....	2	5.0%
Operative Findings .....	2	5.0%
<hr/>		
	4	10.0%
Probably Disqualified .....	1	2.5%
Total Probably Unsuccessful .....	5	12.5%
Killed auto accident .....	1	2.5%
Percentages to one decimal place.		

Thirty-two patients, 82%, have been returned to flying duty. One, 2.5%, remains in the hospital awaiting final disposition. Based on our experience we feel certain he will return to flying. One, 2.5%, has returned to general duty but not yet to flying, and we are inclined to doubt that he will. Four, slightly over 10%, were returned to duty but permanently disqualified from flying because of varying degrees of non-incapacitating pulmonary insufficiency. All of these, incidentally, were disqualified on the basis of their preoperative condition in any case. Surgery, in itself, did not cause their disqualification.

One death occurred in the series, 2.5%. A thirty-eight year old pilot underwent diagnostic thoracotomy because of a left hilar mass. This proved to be a sterile granulomatous lymph node. He made an uneventful recovery and clinically had good pulmonary function. We anticipated his early return to flying and gave him a short convalescent leave. While on leave he was involved in an automobile accident and was killed. This would appear to represent an inroad of the Twentieth Century rather than a hazard of Thoracic Surgery.

The mean age of our patients was thirty-two, and the median thirty-five. The ma-

jority of our patients came from among our seasoned aviators. The eldest was fifty-one and the youngest, the WAF, twenty.

Our largest group of patients reported because of localized bullous emphysema discovered by routine x-ray or because of spontaneous pneumothorax. None, fortunately, suffered pneumothorax in flight. One patient presented with a right apical pneumatocele and a history of left spontaneous pneumothorax. These accounted for thirteen patients and sixteen operations, 33.3% and 37.2% of patients and operations, respectively, *Table III*. Ten of these patients, 76.9%, have

TABLE III		
RESULTS LOCALIZED EMPHYSEMA		
Total Patients .....		13
Total Operations .....		16
Bilateral Procedures .....	2	
Plastic Procedure .....	1	
Returned to Flying .....	10	76.9%
Probable Return .....	1	7.7%
<hr/>		
Total Probably Successful .....	11	84.6%
Disqualified Nature of Disease .....	2	15.4%

returned to duty. Two, 15.4%, are permanently grounded because of the nature of their disease. The remaining patient is still with us and we expect his return to flying shortly.

The two cases in this group who were permanently grounded were found at operation to have more extensive disease than was indicated on the preoperative roentgenogram. Two of this group had bilateral apical wedge resections and pleurodeses. One patient, (Figure 1) presented with a massive right pneumothorax. This was evacuated by closed thoracostomy and subsequent x-rays showed him to have right apical bullae, (Figure 2). A thoracotomy with resection of the apical and posterior segments of his upper lobe was performed. Postoperatively he developed a persistent air leak and a sterile hydrothorax, (Figure 3). A pneumoperitoneum was induced to elevate his diaphragm in the hope of decreasing the size of his right hemithorax. His chest was reopened and the remaining lung decorticated. No definite fistula was found. The bare segmental surface was



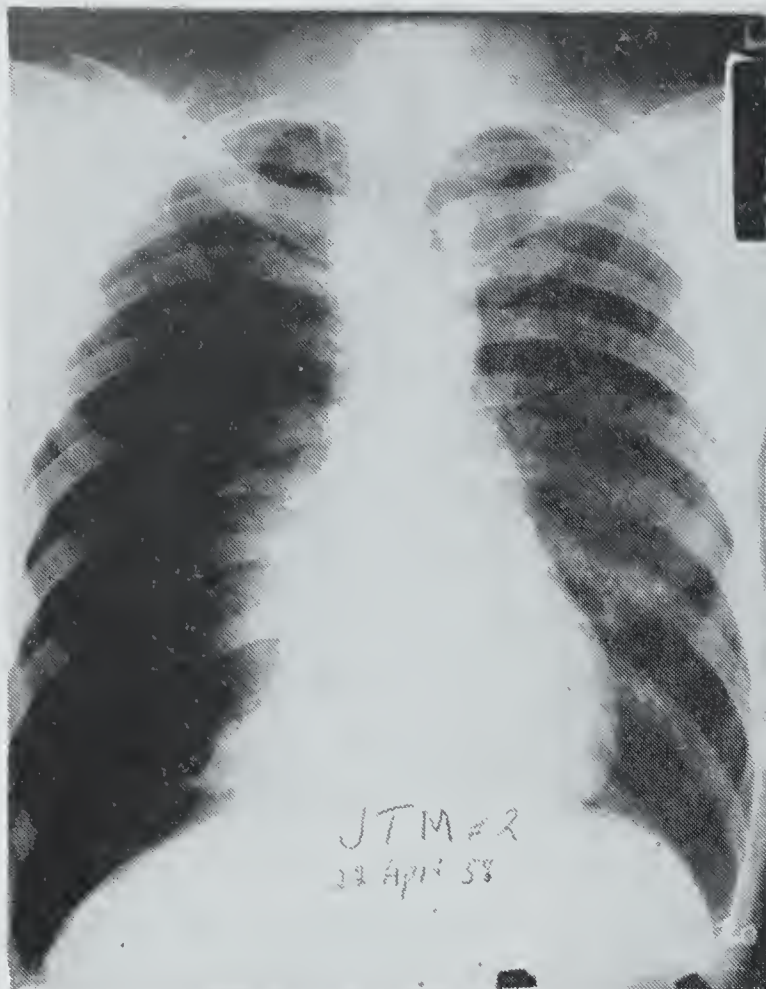


Figure 1. Presenting x-ray with massive right pneumothorax.

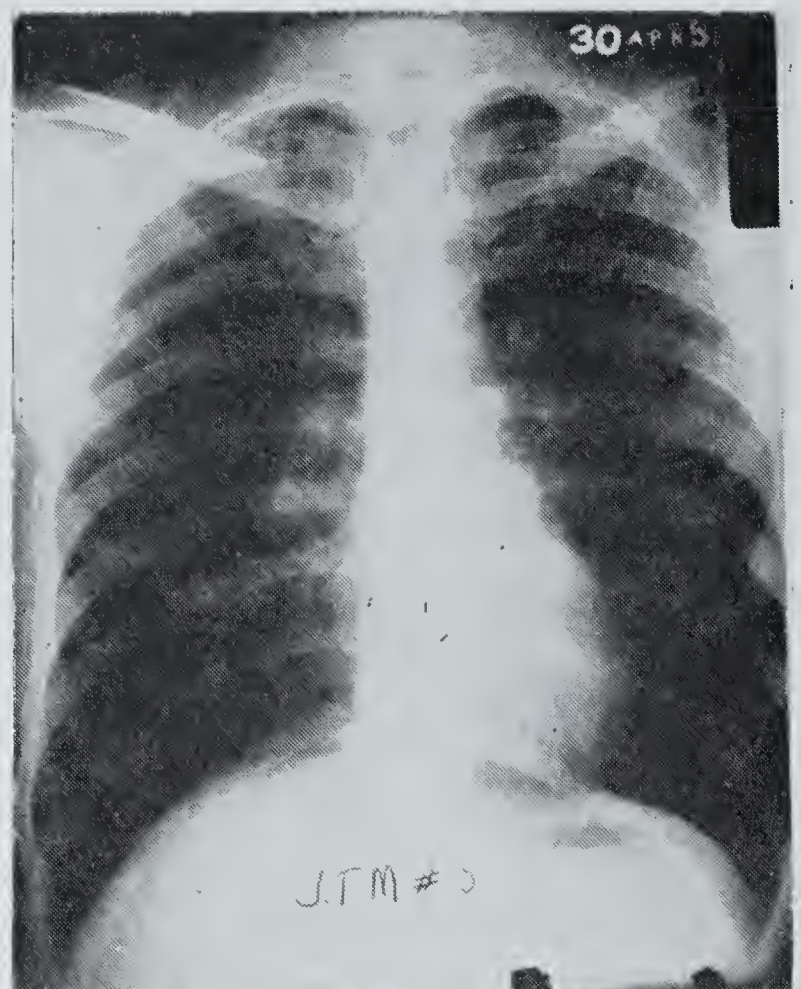


Figure 2. X-ray after re-expansion by closed thoracostomy showing right apical bullae.

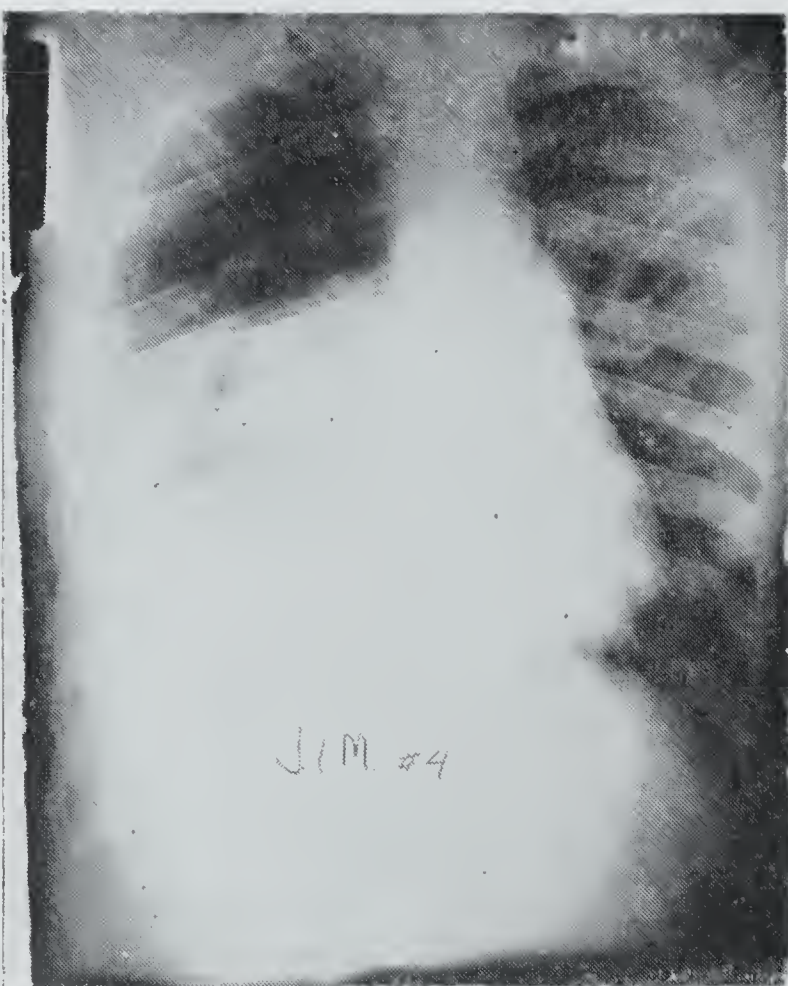


Figure 3. X-ray ten days postoperatively showing failure of expansion.

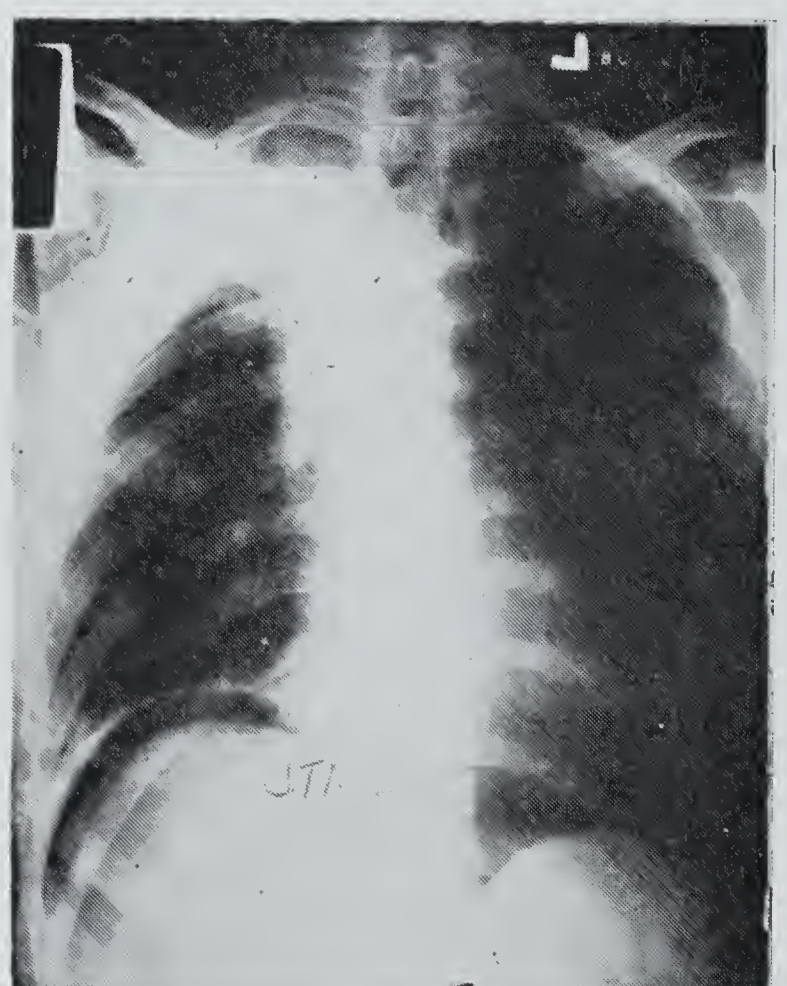


Figure 4. Immediately following decortication and apical lysis showing early extraperiosteal hematoma and decrease in size of thoracic cavity.

tacked to the mediastinal pleura. The chest was closed with drainage and a subcostal extraperiosteal apicolysis was performed, (Figure 4). The lung re-expanded and later the hematoma in the subcostal space organized and resorbed, (Figures 5 and 6). His pulmonary function was somewhat restricted at first but gradually returned to normal and he was restored to flying status.

"Coin lesions" accounted for eight patients, 20.5% of the series. These were all diagnos-

tic thoracotomies. All eight were returned to flying, Table IV. Five granulomata were

TABLE IV  
RESULTS COIN LESIONS

Granulomata		
Histoplasmosis .....	3	37.5%
Coccidioidomycosis .....	1	12.5%
Unknown = .....	1	12.5%
Abscesses, all sterile .....	3	37.5%
Returned to Flying .....	8	100%



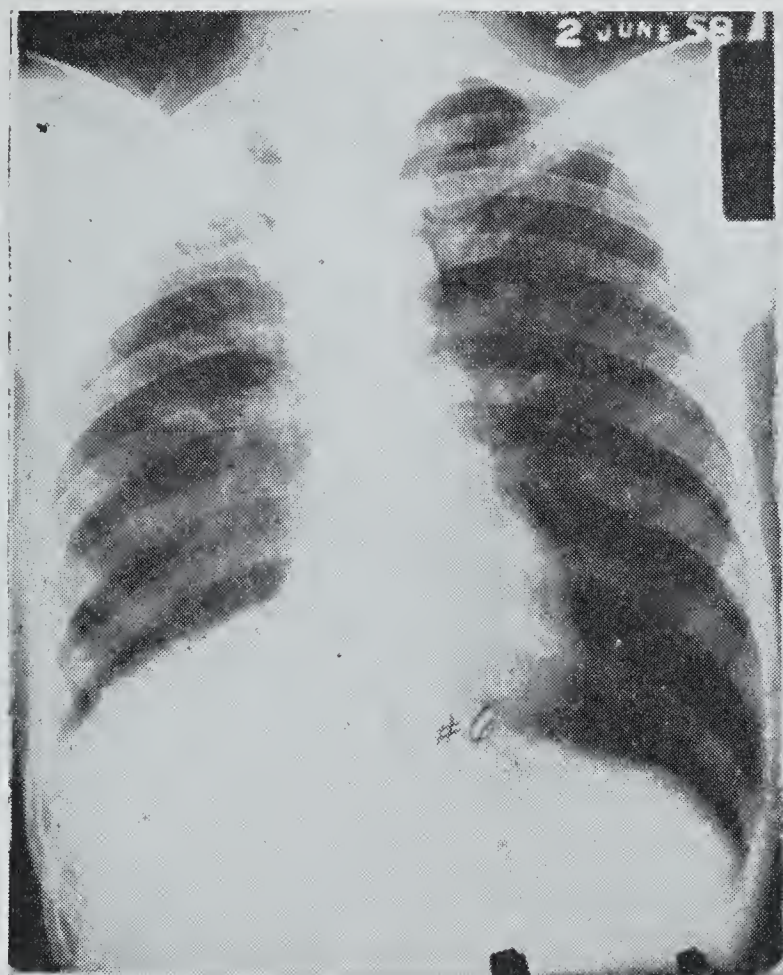


Figure 5. Approximately six weeks postoperatively, showing early resorption of hematoma and further expansion of lung.

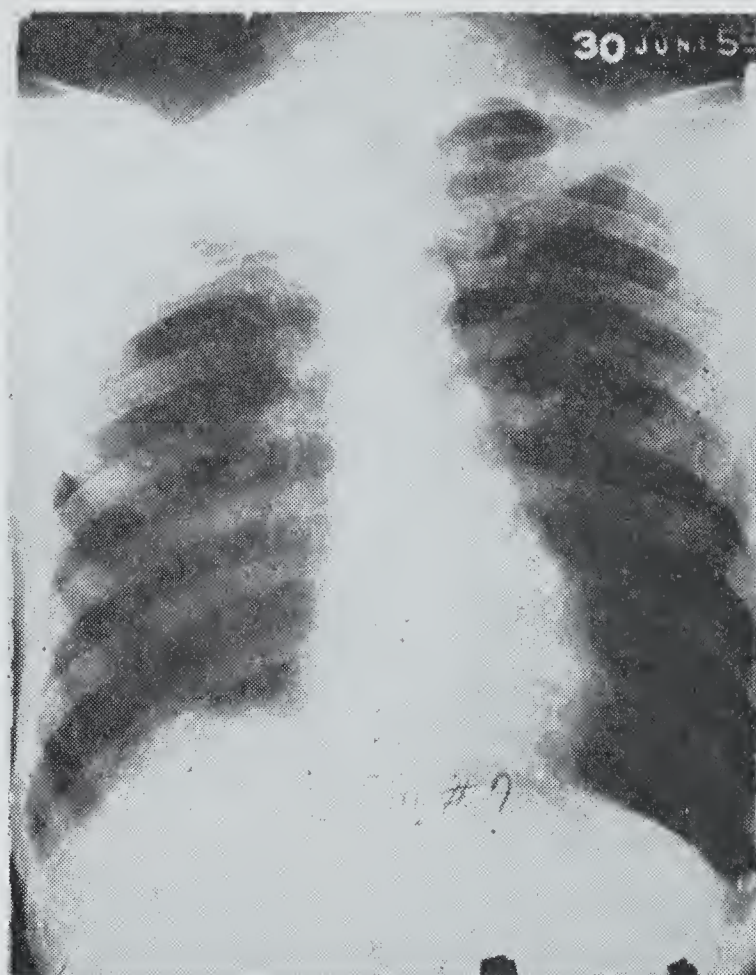


Figure 6. One year postoperatively showing further resorption and fibrosis of hematoma, together with old ribs and regenerated ribs.

encountered, three probably due to *H. capsulatum*, one to *C. immitis*, and one was excised from a patient who showed no reaction to the usual skin tests and which, itself, showed no specific organisms on Periodic Acid-Schiff Stain. Two sterile pyogenic abscesses were wedged out and one was removed by middle lobectomy. This latter was from an airman crew member. It is interesting to note parenthetically that we have not yet seen a malignant thoracic tumor in our series.

Mediastinal lesions, including esophageal hiatus hernia, also accounted for eight patients, 20.5%, Table V. Probably all of these

Four hiatus herniae were repaired and the patients returned to flying. Two patients were treated, one for a mediastinal lipoma and one for a granulomatous lymphadenopathy and were returned. Our accident victim also underwent the removal of a granulomatous node. One patient presented with what was at first suspected of being a pulmonary vascular anomaly, (Figure 7). Pul-

TABLE V  
RESULTS IN MEDIASTINAL LESIONS

Returned to Flying		
Hiatus Hernia Repair	4	50.0%
Lipoma	1	12.5%
Thymoma	1	12.5%
Granuloma	1	12.5%
<hr/>		
Total Successful	7	87.5%
Killed, auto accident		
Granuloma	1	12.5%

would have been returned to flying. Seven of them have. Unfortunately, our victim of the automobile accident falls in this group.

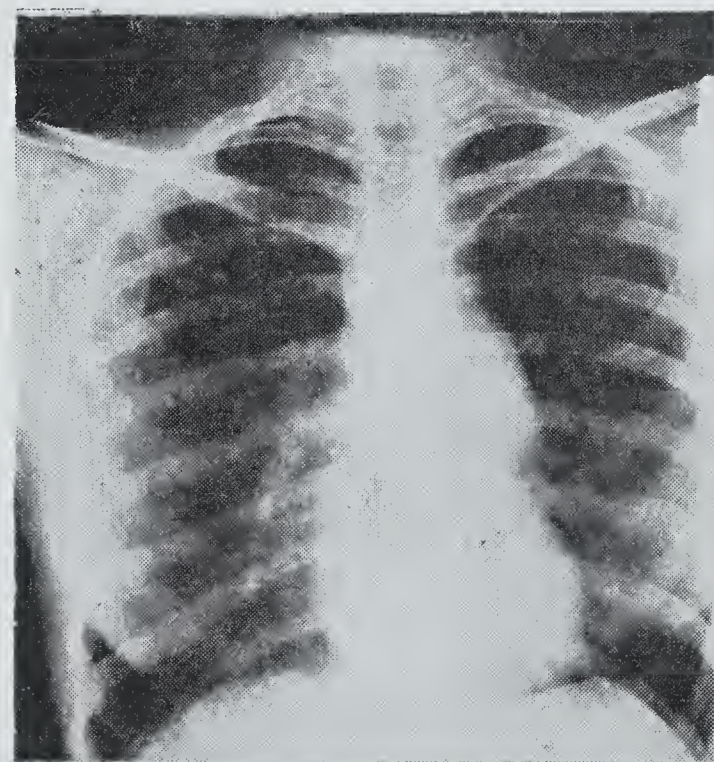


Figure 7. Presenting x-ray with left superior mediastinal tumor.

monary angiograms were normal, however, (Figure 8) and at thoracotomy a thymic tumor was removed. Subsequently, the patient was returned to flying status, (Figure 9).



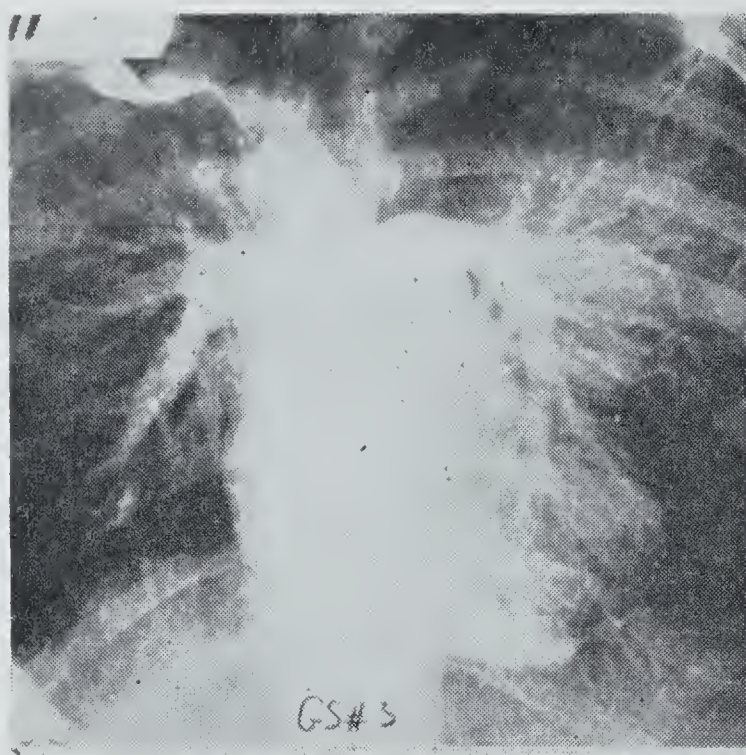


Figure 8. Pulmonary angiogram showing normal pulmonary circulation.

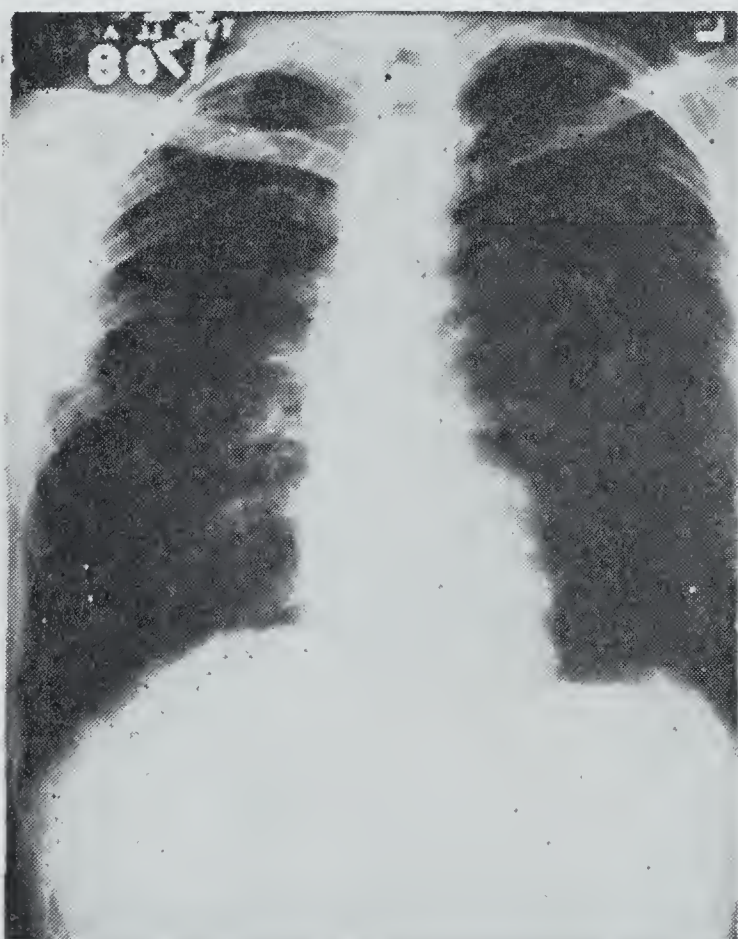


Figure 10. Presenting x-ray with tumor in the region of the 5th rib laterally.

Two chest wall tumors were encountered, 5.1%. One, (Figure 10) proved at thoracotomy to be a neurofibroma in a rather non-characteristic location. We suspected a possible mesothelioma and entered two ribs below in order to be able to rather widely resect it if necessary (Figure 11). It was easily removed and the patient shortly returned to his pilot duties. A second tumor was removed from the chest wall of a patient who reported immediately after sudden onset of excruciating left subscapular pain while driving. From the eroded appearance of his rib, (Figure 12) and from the edematous, angry appearance of the lesion at surgery, we were afraid we were dealing with a malignant tu-

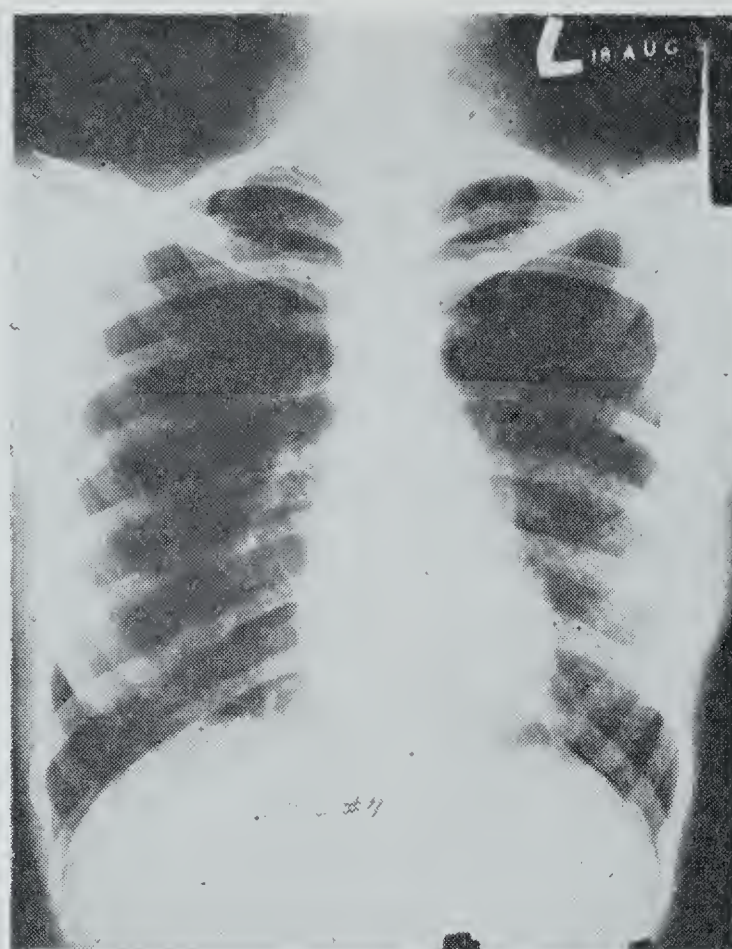


Figure 9. Postoperative x-ray.

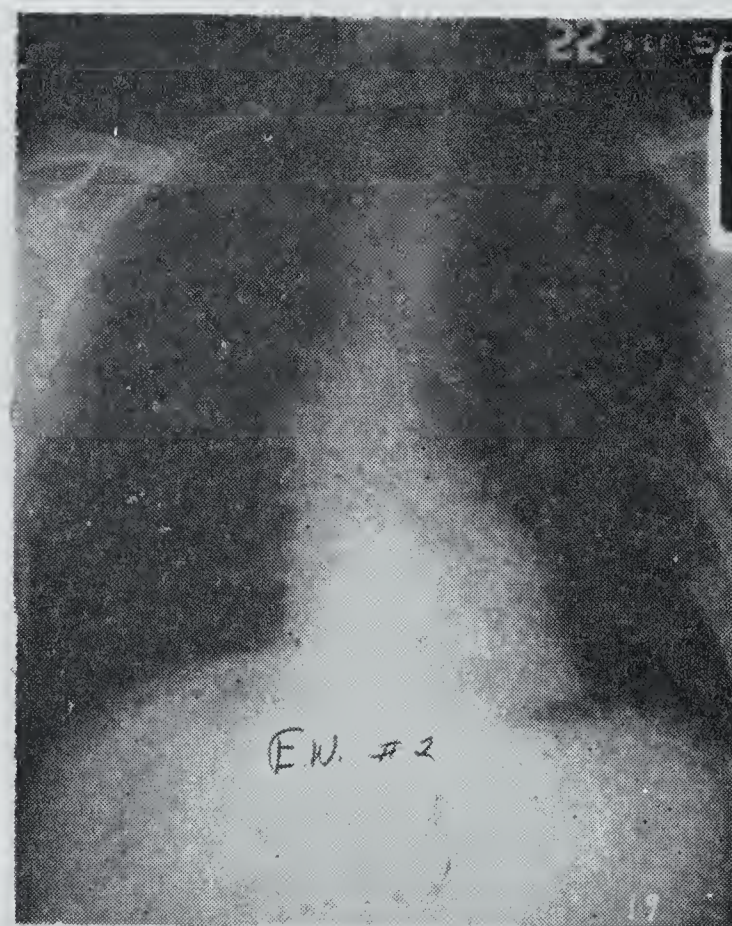


Figure 11. Postoperative x-ray showing resected 7th rib and silver clip at tumor site.

mor of the rib. A wide resection of the chest wall was carried out, including portions of the rib above and below, and the defect closed with tantalum mesh, (Figure 13). Fortunately, for the patient, he proved to have an eosinophilic granuloma, apparently solitary. He made an uneventful recovery and subsequently resumed his career.

Two congenital lesions were discovered, 5.1%. One, a small bronchogenic cyst, was easily wedged out. The second, a twenty-four year old jet pilot experienced a severe, lancinating, substernal pain while making a





Figure 12. Presenting x-ray showing erosion and destruction of cortex of left 3rd rib.

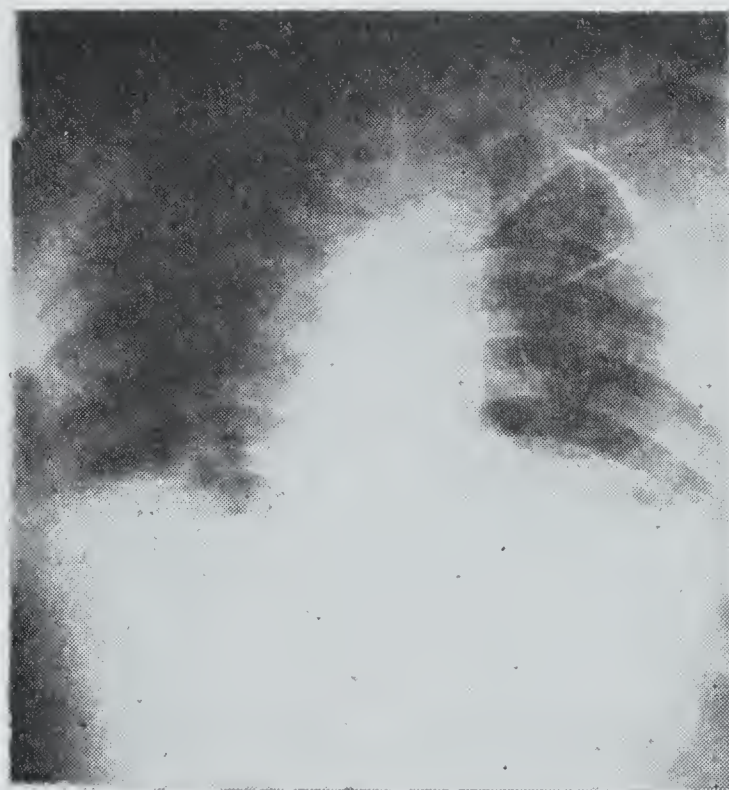


Figure 13. Postoperative film with tantalum mesh reconstruction.

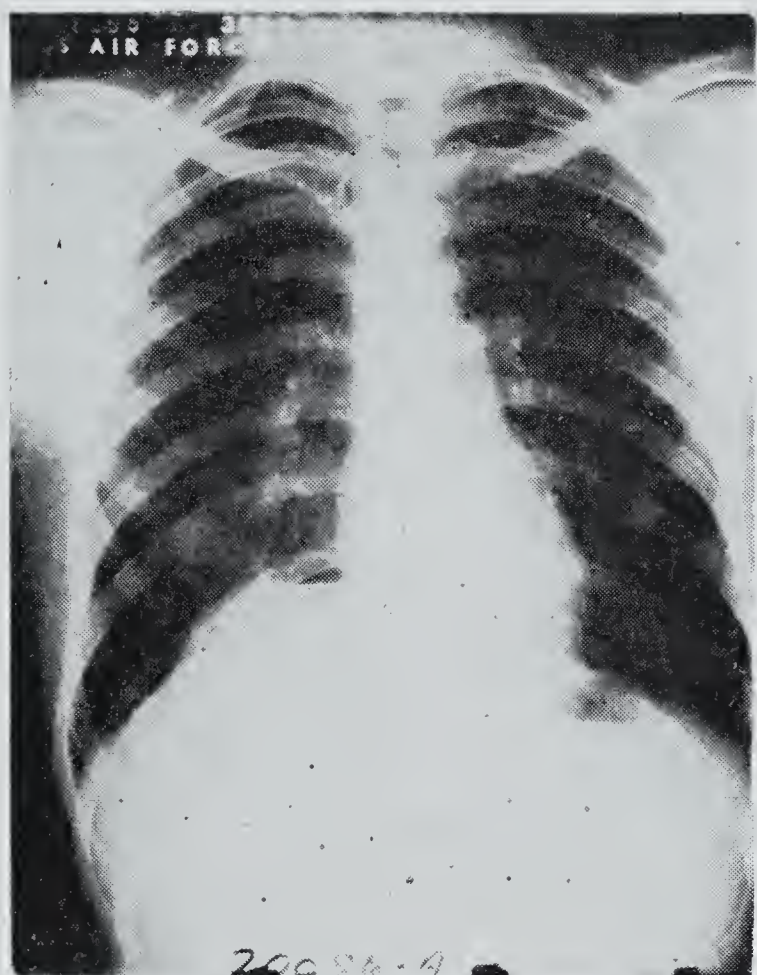


Figure 14. Presenting x-ray. Air-fluid level in right lower chest.

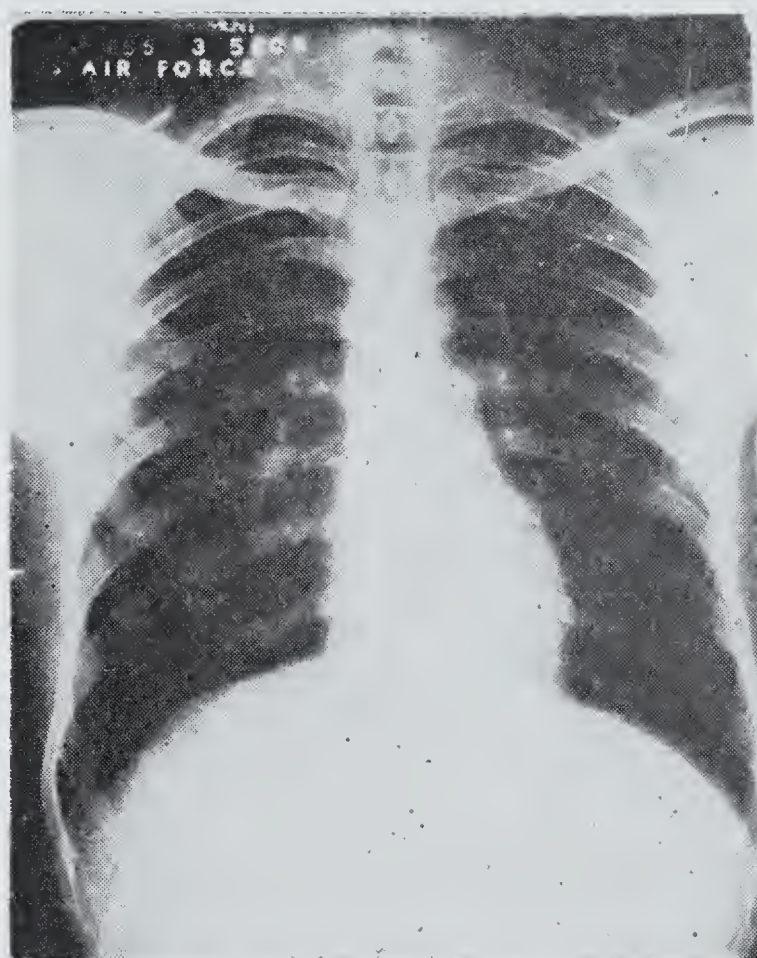


Figure 15. Routine chest x-ray ten days prior to Figure 14.

rapid ascent to altitude. He managed to control his plane, but upon landing had to be removed from the plane. X-rays at his Base hospital showed an air-fluid level in his right lower chest, (Figure 14). He had had a reportedly normal chest x-ray within two weeks previously, (Figure 15). Retrospectively reviewing these films, and it does not show well in the photographs, one can see quite definitely the walls of a cystic structure in the area subsequently occupied by the air-fluid collection. He was explored, and an intralobar pulmonary sequestrum was found with a large vascular communication to the

descending aorta. This was removed and the patient, (Figure 16) resumed his work as a pilot.

Two cases of traumatic diaphragmatic hernia were encountered. The first was referred to us as an atelectasis of the left lower lobe and suspected bronchogenic carcinoma (Figure 17). In retrospect, he had had a sudden flexion injury some time before. At surgery his great omentum and a portion of his transverse colon were reduced into his abdomen and a small diaphragmatic rent was closed. He returned to flying (Figure 18). The second case was a fifty-one year old navi-



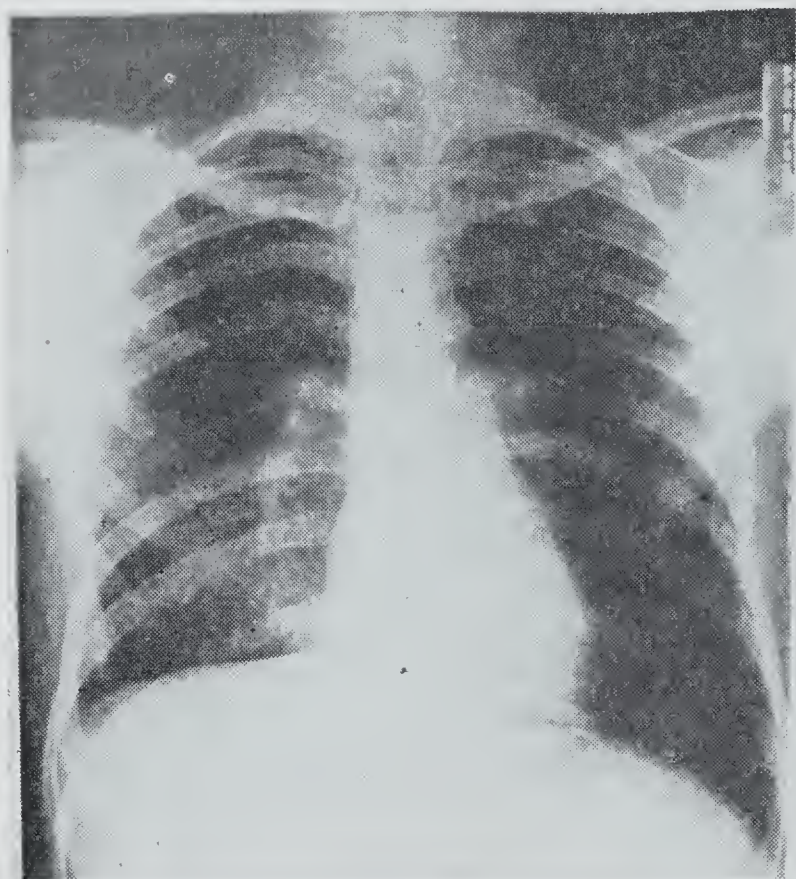


Figure 16. Postoperative x-ray.



Figure 17. Presenting x-ray demonstrating what appeared to be elevation of the left diaphragm and atelectasis of the left lower lobe.

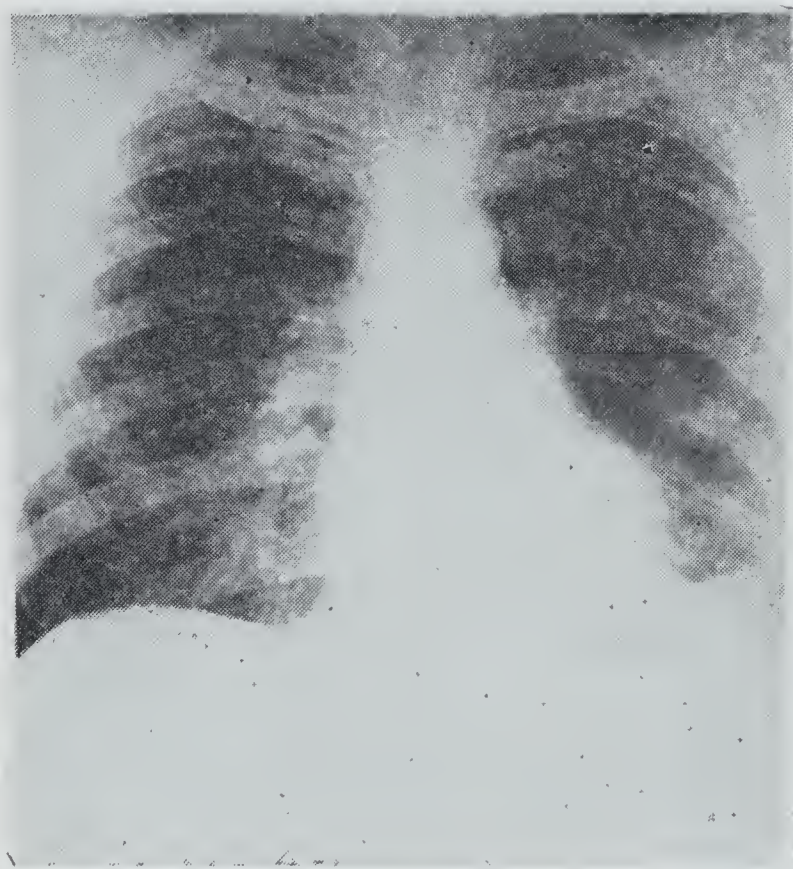


Figure 18. Postoperative film after repair of traumatic hernia in diaphragm.

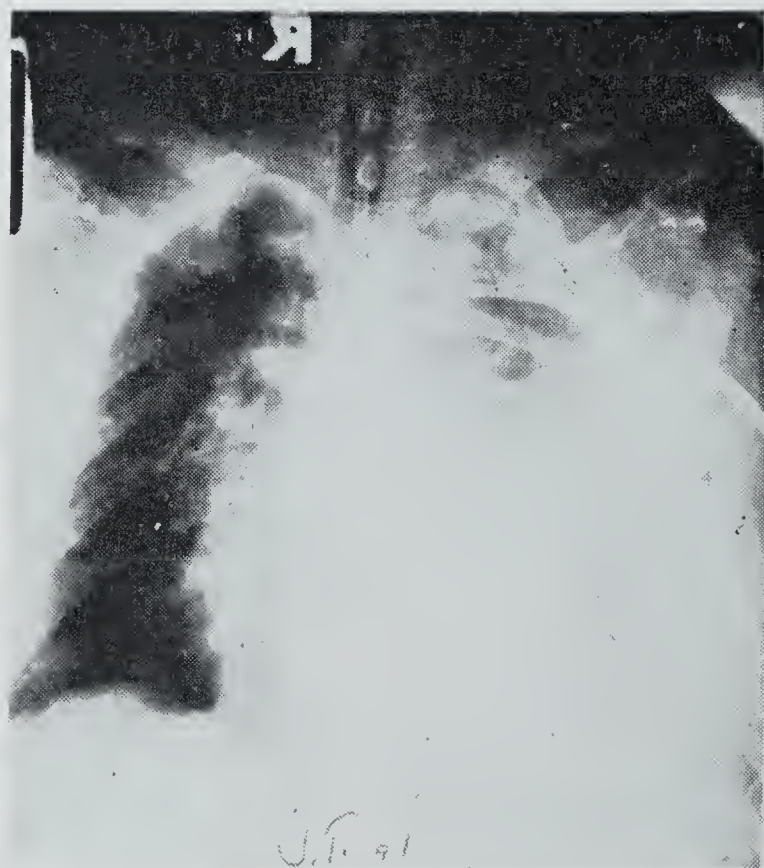


Figure 19. Presenting film showing Levine tube descending in esophagus to normal level of cardio-esophageal junction, and then passing upward into thorax.

gator who had been involved in an automobile accident and had sustained, simultaneously, a flexion injury and a steering wheel injury to the chest. He had been kept in a small civilian hospital for a week where he had been made fit for transport to us. He presented with a rather diagnostic chest x-ray (Figure 19), with his Levine tube passing down his esophagus and up into his chest. He had, in addition, several rib fractures. He had a rather large rent in his diaphragm. His stomach, splenic flexure, tail of the pancreas and spleen were in his chest. The spleen had a large rent in it. Apparently he had been saved from hemorrhaging to death only

by the fact that his splenic artery had been kinked against the edge of the diaphragmatic tear. The hernia was reduced, a splenectomy was performed and the diaphragm repaired. He had a stormy course for about five days, but eventually recovered and was returned to duty. When last measured, his vital capacity was only 65% of predicted normal and his Maximum Breathing Capacity only 48%. We feel this is probably due to a combination of emphysema consistent with his age, restricted chest wall function, and un-



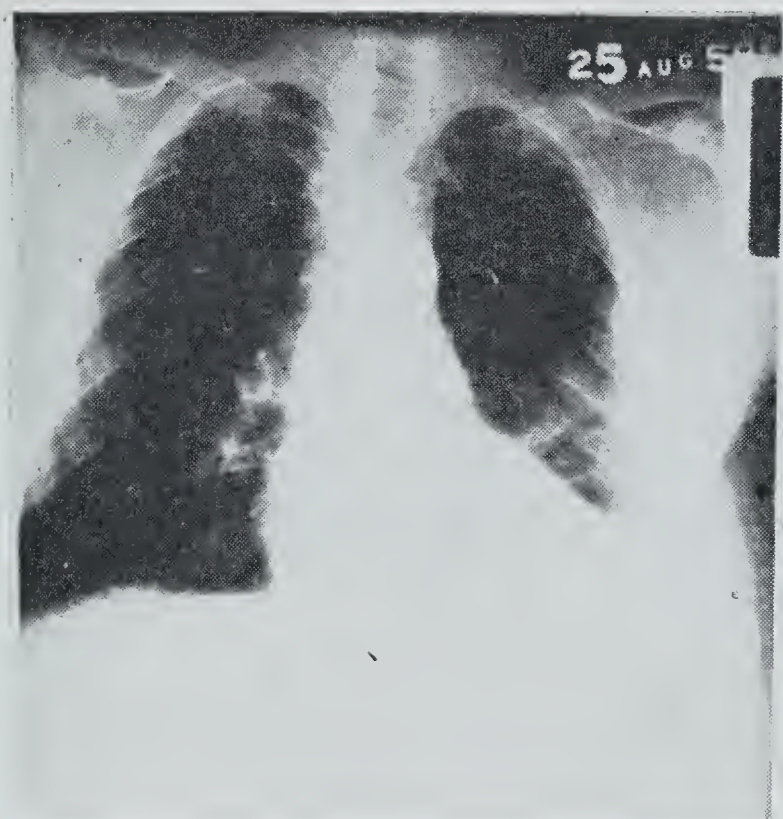


Figure 20. Postoperative film showing repair and flattening of the left chest border due to old rib fractures.

doubtedly some limitation of diaphragmatic excursion. We feel he will probably never return to flying but the patient, himself, has not given up hope. His postoperative film is shown (Figure 20).

A third case of trauma was encountered in an individual who, while cleaning his shotgun under the impression it was unloaded, discharged it at short range into his chest. There was considerable disruption of the chest wall, a sucking wound, and shot wounds of the lung. His axilla was exposed but no major vessels or nerves were severed (Fig-



Figure 21. Chest wound immediate post debridement.

ure 21). The wound was debrided, the chest drained and the axilla reconstructed with a z-plasty (Figure 22). Subsequently, the lower portion of the chest wall was covered by a graft. The patient achieved a good result and was eventually returned to flying (Figure 23).



Figure 22. Axilla reconstructed by z-plasty.

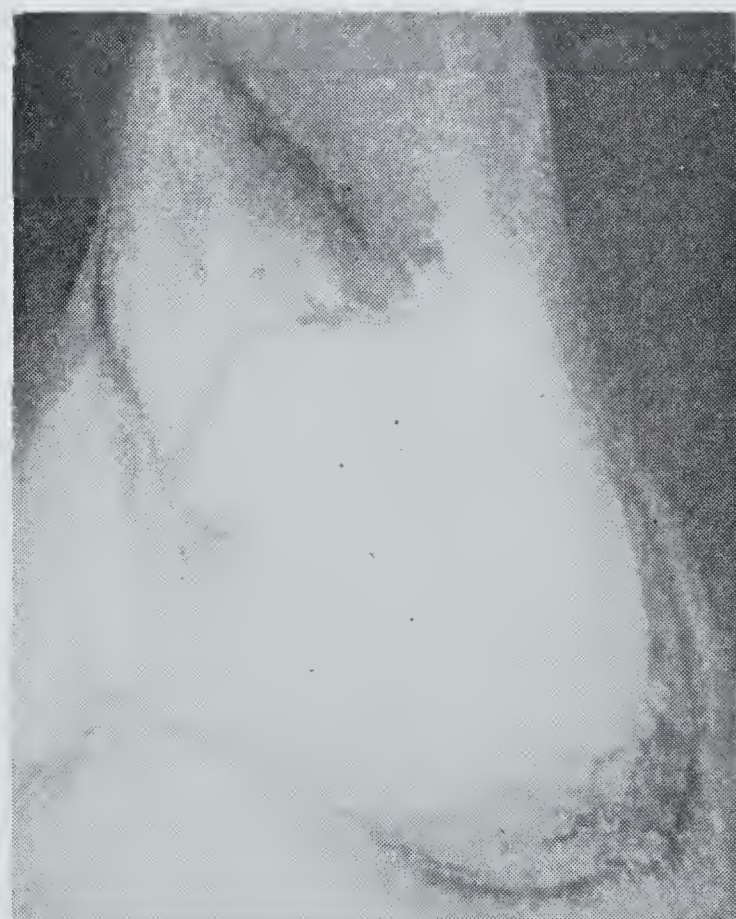


Figure 23. Three months postoperative after grafting of lower thoracic defect.



Two patients had extensive pulmonary resections. These were not returned to flying because of decreased pulmonary function but were returned to duty. One was an airman who required a pneumonectomy for what proved to be an organizing, calcifying, progressive pneumonitis, the etiology of which we are not sure, however, *C. albicans* was cultured in pure culture from his tissue. This was followed in three weeks by a subcostal polystan plombage to stabilize his mediastinum (Figures 24, 25, 26). A second patient,

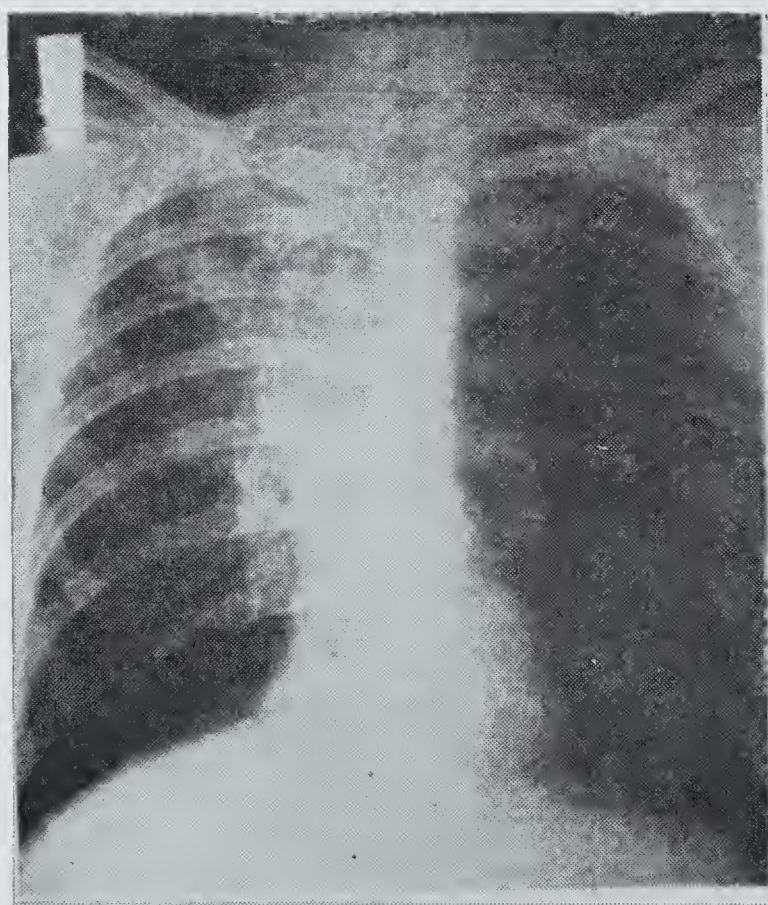


Figure 24. Presenting film showing chronic pneumonitis.

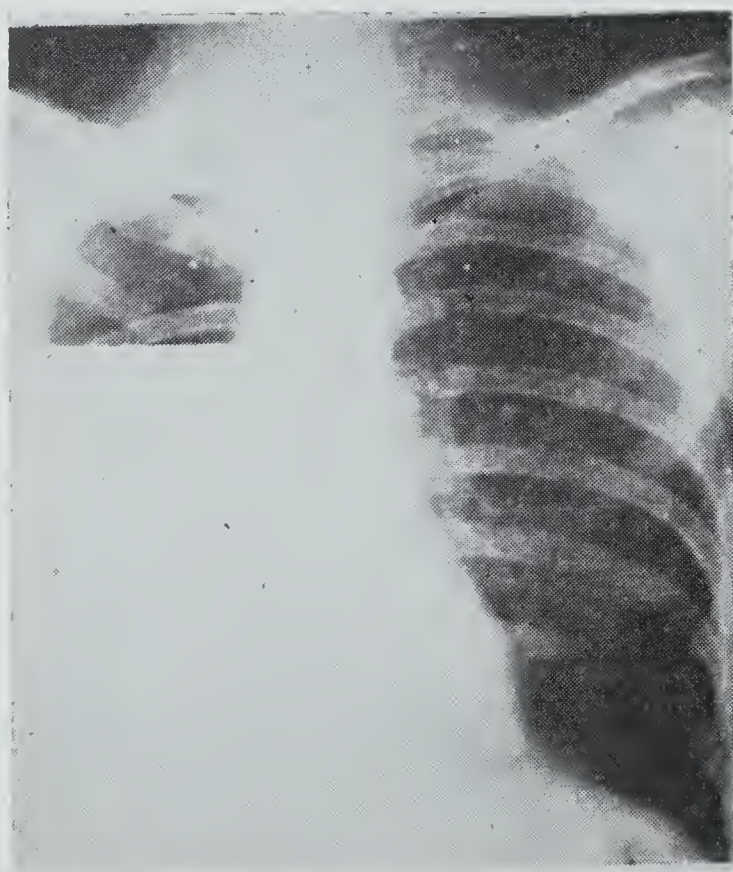


Figure 25. Post pneumonectomy.

medial segmental resection of the middle lobe for bronchiectasis, as well as a wedge of a persistently atelectatic area of the upper lobe. His postoperative pulmonary function was just below the lower limit of normal and his return to flying was not advised.

Our last case is rather unique. A twenty-three year old pilot was referred to us with second and third degree burns of the face and chest incurred in a jet crash (Figures 27, 28). He received the standard treatment of exposure and electrolyte replacement. When his eschar began to separate, he was taken to the operating room for a series of debridements and later grafts and tarsorrhaphies. He tolerated five anesthetics well. During attempted induction of the sixth, he suffered a cardiac arrest. His chest was opened without any preparation through a granulating wound, and his heart massaged. He was resuscitated in about fifteen minutes. His heart had been in standstill. His chest was drained and closed. He was somewhat confused and lethargic for four days, but after that resumed his normal state of alertness. His chest healed without infection except for a small superficial abscess (Figure 29). He was later sent to a plastic center where an extensive reconstruction of his face was carried out, principally under local anesthesia but with one general anesthesia with no un-

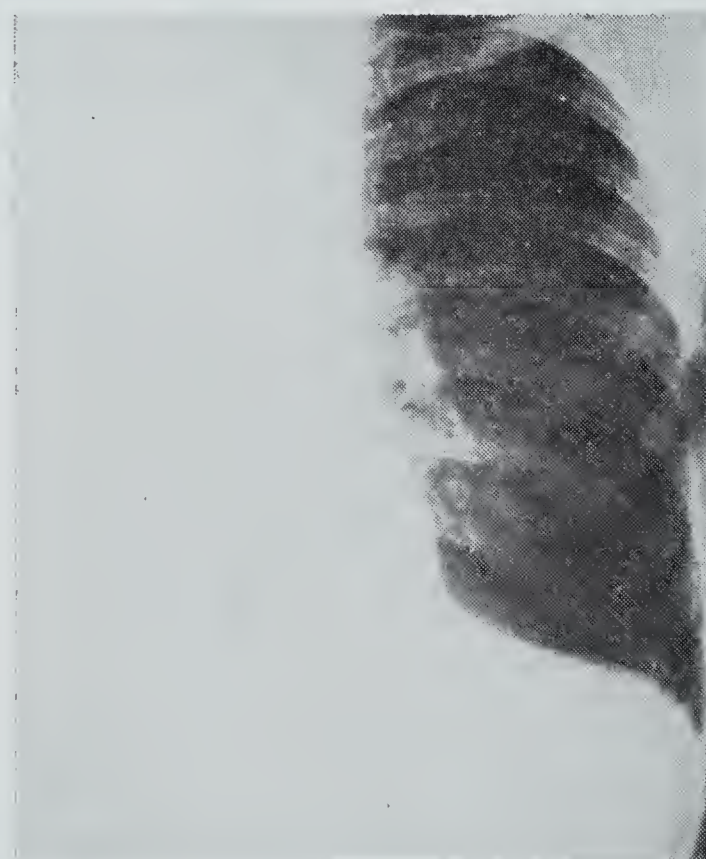


Figure 26. Post plombage.





Figure 27. Views showing facial burns and tarsorrhaphies. Figure 28.

toward result. He was seen in consultation by the School of Aviation Medicine,<sup>8</sup> and was later returned to flying status about one year after his arrest.

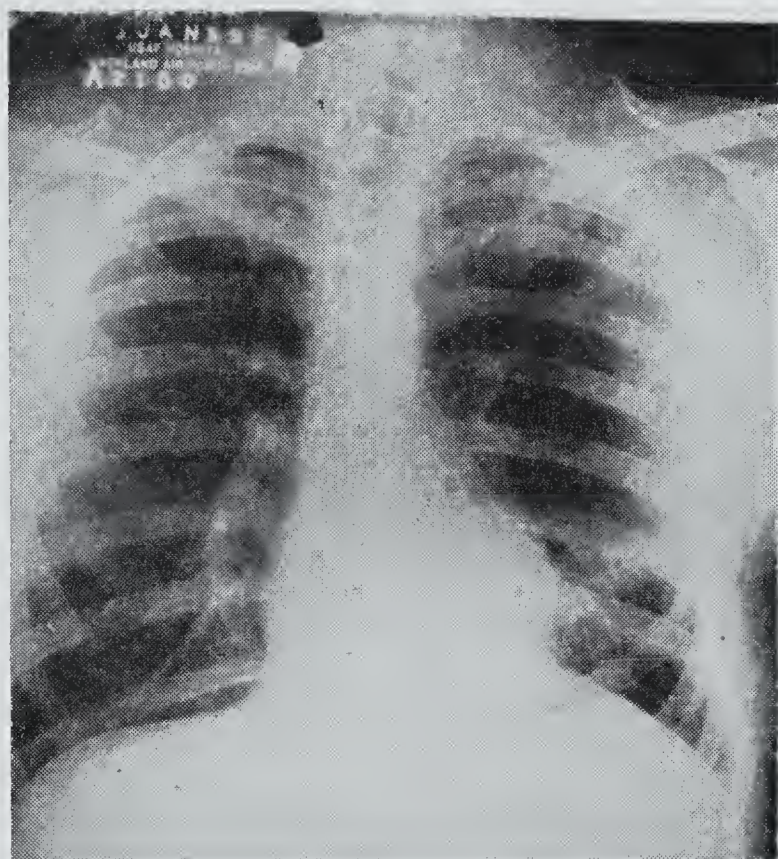


Figure 29. X-ray of chest one year after cardiac massage.

8. Berry, C. A. and King, A. H.; Aeromedical Problem Cases, Aerospace Med, 30: 806, 1959

Our latter cases are summarized in *Table VI*.

TABLE VI  
RESULTS IN TRAUMA, CHEST WALL TUMORS  
AND MISCELLANEOUS CONDITIONS

Returned to Flying		
Trauma .....	1	
Shotgun wound, chest .....	1	
Tumors, Chest Wall		
Neurofibroma .....	1	
Eosinophilic Granuloma .....	1	
Congenital Lesions		
Bronchogenic Cyst .....	1	
Pulmonary Sequestrum .....	1	
Cardiac Arrest .....	1	
Total Successful .....	7	70%
Grounded		
Progressive Organizing Pneumonitis .....	1	
Diffuse Inflammatory Disease ..	1	
Diaphragmatic Hernia & Crushed Chest .....	1	
Total Unsuccessful .....	3	30%



DISCUSSION

A large number of thoracic conditions exist which, because of the risks they impose, render individuals unsafe as flyers, particularly in today's high performance, high altitude aircraft. A number of these are amenable to surgical correction and after successful correction the patients may subsequently resume their careers.

There is little question of a man's ability, safely to return to flying after surgery to the mediastinum and its contents, or after minor lesions of the chest wall have been excised. Landis and Weisel<sup>9</sup> reported an average loss of only 11.3% of Maximum Breathing Capacity after five to six rib posterior thoracoplasty and only 3.9% after wedge resection. Thoracotomy alone has little lasting effect on pulmonary function.

The question of the ability of the healed, post resection lung and bronchus to withstand the stresses of flying is quite pertinent. It has been shown that the lung heals in the same manner as other body tissues, first by the proliferation of granulation tissue which matures to strong scar. Healing is reported to be complete in about thirty days.<sup>10, 11</sup> In experimental work on bronchial healing, Hanlon,<sup>12</sup> was able to produce rupture of the healed or healing bronchus in only one of twenty-three dog lungs using air pressure of up to 80 mm. of mercury. In two cases technical difficulties were encountered, but in all others the normal pulmonary parenchyma

leaked before the bronchus ruptured. Thus, it appears that the healed bronchus is at least as strong as the normal pulmonary parenchyma.

So far, we have not attempted to return to flying anyone with less than sixteen remaining bronchopulmonary segments, as in the patients with the middle lobectomy and the right apical and posterior segmental resection. However, should an individual present with a larger resection who had satisfactory pulmonary function, we would not hesitate to recommend his return. Arbitrarily, we feel that patients should have a Vital Capacity and Maximum Breathing Capacity of at least eighty percent of predicted normal. In addition, these patients are required to satisfactorily complete a chamber flight and a rapid decompression under the supervision of a medical officer.<sup>13</sup> Occasionally when searching for air entrapment, x-rays at altitude may be taken. Schilling, Harvey and Balke<sup>14</sup> have demonstrated the ability of experimental subjects who have undergone as much as 60% pulmonary resection to withstand the effects of altitude, and we feel that our standards are well within the limits of safety.

The question may be legitimately raised as to the implications of space flight on our conclusions. As far as man's lungs are concerned, we are already in physiologic space.<sup>15</sup> The sum of the partial pressures of alveolar water vapor and carbon dioxide is 1.68 pounds per square inch, which is the equivalent of the ambient barometric pressure at 50,000 feet. Above this level and, indeed, for approximately 10,000 feet below it, man must breathe oxygen under pressure or he will

9. Landis, F. B. and Weisel, W.; Comparative Study of Pulmonary Function Loss; Thoracoplasty versus Small Resection in Surgery of Tuberculosis, *J. Thor Surg*, 27: 336, 1954

10. Joannides, M., Hesse, A. L., and Joannides, M., Jr.; Surgical Wounds of the Lung, The Mode of Healing of Pulmonary Tissue, *J. Thor Surg*, 18: 695-706, 1949

11. Valle, A. R. and Mider, G. B.; The Mechanism of Healing of Lung Tissue and Its Reaction to Different Suture Materials, *J. Thor Surg*, 19: 324-331, 1950

12. Hanlon, C. R.; Observations on the Use of Gelatin Sponge in Closure of Experimentally Produced Defects of the Bronchus, *Surg, Gynec, and Obst*, 86: 551-558, 1948

13. Medical Examination, Air Force Manual 160-1, Department of the Air Force, Washington, D. C., April 30, 1953

14. Schilling, J. A., Harvey, R. B. and Balke, B.; Altitude Tolerance and Work Capacity of Dogs Undergoing Extensive Pulmonary Resection, U.S.A.F. School of Aviation Medicine Research Report, 55-93, February 1956

15. Downey, V. M.; Space Begins at 50,000 Feet, *U.S. Armed Forces Med J*, 10: 1287, 1959



not be able to draw a sufficient quantity into the lungs to saturate venous blood. At 63,000 feet, the Armstrong Line, the ambient barometric pressure is less than the body's water vapor pressure, and exposed to this without protection man's body fluids will boil. We are already flying in these ranges where exposure is incompatible with life. As far as pulmonary function is concerned, man encounters the same stresses at these levels as he will encounter at any point above it.

One last point should be cleared. You have undoubtedly noticed that nowhere in this paper did we discuss this problem as it relates to pulmonary tuberculosis. The reason for this is that we have no sanatorium facilities at Maxwell, and we do not, knowingly, treat tuberculosis there. Our feeling about the question, however, is, simply, that if a man is a flyer and has good pulmonary function and is felt to be fit for general duty, we see no reason why he would not be considered fit to fly.

#### SUMMARY

We have presented a series of thirty-nine flyers who have undergone a total of forty-three thoracic surgical procedures at our hospital, thirty-two of whom have been returned to flying duty. Thoracic surgery offers considerable help in the rehabilitation of flyers with chest diseases.

Some physiological aspects of flight as they relate to the chest and its contents have been discussed.

In a six-year field test on 2,327 children and adult counselors at three summer camps, the incidence of colds and other respiratory infections was 15.7% in the subjects who used Crionil sulfathiazole lozenges as compared with 55.6% in the untreated controls. In another series of 1,505 patients seen in private practice, the incidence of colds and other respiratory infections was 13.6% in the patients who used the lozenges as compared with 58% for the controls.

Crionil is a specially flavored lozenge containing 2.5 grains of sulfathiazole in a unique base which provides prompt absorption into

the interstices of the oropharyngeal mucosa for prolonged local antibacterial action.

Colds developing in the subjects who used the sulfathiazole lozenges were less severe and of shorter duration than in the controls. No untoward effects of the medication were observed in any case. The successful results in prevention and amelioration of colds are attributed to the local antibacterial action of sulfathiazole upon the pathogenic bacteria which often reside in the throat, notably *Streptococcus hemolyticus*, *Staphylococcus aureus*, and Types I and II pneumococcus. These bacteria probably work in symbiosis with the virus of common cold, so as to prolong the period of infection and aggravate the inflammatory symptoms.

From Eye, Ear & Throat Monthly 39: 58, 1960.

A review of 427 cases of antibiotic induced pruritus ani discloses that this condition is a common sequela of broad spectrum antibiotics, especially chlortetracycline and oxytetracycline. The incidence of gastrointestinal side-effects including anal pruritus has been estimated at 20% of patients taking the recommended dosage of antibiotics. Without effective treatment the symptoms are often severe and persistent. There appears to be no essential difference between idiopathic pruritus ani and the disease caused by antibiotics.

In a series of 100 cases of idiopathic pruritus ani, and of 20 cases induced by antibiotics, the use of Hydrolamins amino-acid ointment provided immediate and permanent relief (88% in the former group and 100% in the latter). Results showed a superiority far better than anything expected in the treatment of pruritus ani. In the antibiotic group, the medication cleared up the rectal itch in a range of 2 to 14 days, average 6 days.

Hydrolamins amino-acid ointment contains 10% lactalbumin hydrolysate, specially prepared to reduce the methionine and cystine content, in a polyethylene glycol base.

From Gastroenterology 38: 247, 1960.



## DANGER SIGNALS POINTING TO DEPRESSIVE ILLNESS

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The aphorism, "One doesn't diagnose what he doesn't think of," is particularly applicable to depressive illness. Depression is an illness commonly encountered in all areas of medical practice but seldom immediately recognized in any. To avoid a diagnosis which could lead to improper treatment or even unnecessary surgery, a physician must have some knowledge of the signs, overt and disguised, which point to depression; he should be aware of the potentialities of suicide, a not infrequent accompaniment of a depressive reaction, in order to take proper preventive measures; and he should be able to recognize when psychiatric referral is indicated.

Used psychiatrically, the term depression differs in meaning from that generally given it in common usage. It is a mood disorder, or, in less frequently used language, an affective disorder, of which a sad, despairing emotional state seems to constitute the real core. Mood, affect, and feeling tone all represent the over-all orientation of body and mind to living. When the layman speaks of depression he tends to think only of the mood element which in psychiatry would more properly be labeled dejection, sadness, or gloominess. However, a mild or transient attack of the 'blues' cannot be considered a psychiatric entity; it is only when sadness or grief is unusually intense or prolonged or out of proportion to circumstances that it becomes important from a diagnostic view. Further, in psychiatric definition,<sup>1</sup> depression refers to a clinical syndrome consisting of not only a lowered mood-tone but also difficulty

in thinking and psycho-motor retardation which may be a cause, as well as result, of mood disturbance. Some patients are not aware of depressed feelings because these have been displaced to various parts of the body in somatic symptoms. Others deny being depressed because they cannot produce any justifiable reason for it. In certain cases the general retardation may be masked by anxiety, obsessive thinking and agitation.

Although in a measure all depressions have the same characteristics, they do not all rest on the same personality foundation and, hence, vary in expression. In spite of its definition as a separate entity, depression may occur in the course of any psychiatric disorder. For these reasons no satisfactory method—or, for that matter, justification, has been devised for separating the reaction into rigid etiologic or nosologic classifications. There are individuals who experience recurring depressions which may or may not alternate with periods of elation and which because of their phasic character are variously described as 'cyclic', 'circular', 'recurrent', or 'manic-depressive' disease. Other people with meticulous, rigid, or perfectionist personality patterns may develop a depressive reaction in the middle and later period of life. The involutional period is one in which change is more difficult than earlier in life, and these depressions are more likely to be accompanied by anxiety and agitation. The reaction may be precipitated by retirement, a change of job, a move from one town to another or from one house to another. A number of individuals develop a depressive reaction to a minor illness or operation or, upon receiving a diagnosis which requires treatment including diet, develop a so-called dietary depression. Many women of this age whose children have grown up and left home

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From THE FRANK KAY CLINIC, Birmingham, Alabama.

1. Hinsie, Leland E., and Campbell, Robert Jean: *Psychiatric Dictionary*. 3rd. ed., New York, Oxford Univ. Press, 1960. p. 199.



are subject to depressed feelings unless they have developed other interests. In these persons, change merely serves as a trigger mechanism which disturbs lifetime defenses against anxieties and emotional disturbances which may have been buried for years or handled by compulsive, obsessive, or phobic behavior. Neurotics get depressed. Such depressive states may be directly occasioned by an external situation and may be relieved when the situation is altered. People such as these 'think unsurely, feel unsurely, and act unsurely,'<sup>2</sup> and throughout life have used this withdrawing or depressive response to any threatening situation. The schizophrenic personality may become depressed. These are usually self-conscious, diffident individuals, many of whom say—and it is probably true—that they have never been really happy. Drug addicts, including alcoholics, on being deprived of the drug may have depressive withdrawal symptoms.

People with organic brain diseases may become depressed. And all of these should be distinguished from the chronically miserable souls who make a career out of being unhappy, or the masochists who seem to get satisfaction out of their misery. It becomes apparent that whatever variations exist should be utilized as an indication of the severity of the particular state rather than as a means of satisfying an undue concern with nomenclature. Gregory Zilboorg has observed, "All psychological reactions, normal or abnormal—and particularly the latter—present emotional reactions whether these be obvious or concealed, and whether the clinical picture is that of an agitated depression or of a catatonic stupor. To separate the emotional component and view it as a separate entity is like separating serum from the blood corpuscles."<sup>3</sup>

The underlying reason for depression can be found in the area of the individual's interpersonal relationships. Major depressions are ordinarily related to the loss, either real or fantasied, of a loved person or object, or of an idea such as a person's idealized image of himself or his immediate environment. In normal grief following an actual loss of a love object, the individual temporarily withdraws from life, and after the painful process of separation from the lost object is completed, gradually re-attaches himself to other people or other interests. During this necessary 'work of mourning' sense of loss is never absent from consciousness. In a pathological depression the picture is different. Although the death of a loved person may be the precipitating cause of the depressive reaction, the patient is seldom if ever aware of the direct connection between the loss and his emotional response. His concern is directed toward other things such as guilt feelings, fatigue, loss of memory, or a lack of enjoyment of life. In differentiating between mourning (normal grief)<sup>4</sup> and melancholia (an earlier term for depression), Freud formulated the theory that a person who is unable to accept normally the loss of the person or idea with which he has been strongly identified introjects—absorbs into himself or 'swallows'—the lost object. Then, in venting his disappointment or frustration upon the object, he must perforce turn his hostility against himself, since the lost object is, in a sense, 'inside' himself. Such an interpretation must depend on ambivalent feelings of love and hate for the lost person or thing. Depression may be related to loss in another sense. Here the individual experiences rejection because he feels he is not getting something—affection, approval, advantages—to which he considers himself entitled, either because of efforts he has made to obtain it or, perhaps, just because he exists. Frustration and disappointment act psychologically as prohibitions and threats to the ego and

2. Kennedy, Foster: *The Neuroses: Related to the Manic-Depressive Constitution*. Med. Clin. N. A. 28: 452-466 (March, 1944).

3. Zilboorg, Gregory: *Considerations on Suicide, With Particular Reference to That of the Young*. Amer. J. Orthopsychiat. 7: 15-31 (Jan.), 1937.

4. Freud, S.: *Mourning and Melancholia*. Collected Papers, Vol. , London, Hogarth Press, 1925. Originally published in *Internat. Ztschr. F. Psychoanal.* 1917.



result in hostility. An individual who cannot become aware of his hostility and who represses it—and repression is always an unconscious process—often gets, following the repression, a feeling of guilt which he doesn't understand and resultant anxiety and depression.

An exaggerated sense of guilt combined with an intense need to be punished for it, is the most striking phenomenon of depression. Most depressed people are self-critical, feel unworthy or sinful—often justifiably so—and no longer receive the same satisfaction and joy from living and the things they do. Other primary characteristics common to most depressions are: sleep disturbance, a diurnal variation of mood and somatic symptoms, a decrease of mental activity, and psychomotor retardation. Usually the patient is able to go to sleep but awakens after only a few hours. He may state, and believe, that he has no sleeping difficulty. Therefore in history-taking it is important to phrase the questioning: "What time do you go to bed? What time do you usually go to sleep? What time do you wake up? What time do you get up?" In most profound depressions the mood tone follows a regular pattern of diurnal fluctuation; the individual feels more depressed in the morning, better in mid-afternoon or early evening, and worse again at night—unless he feels so bad all day long that he can't tell the difference. Difficulty in organizing and expressing thoughts may be manifested in a slowed up motor response or total non-responsiveness. When a patient is asked to stand up, walk to the door, or pick up something, he may display a hesitancy due not merely to misunderstanding but to a difficulty in initiating either speech or activity. Functionally, agitation is the reverse side of psychomotor retardation; although the same difficulty in thinking is experienced, its physiological expression is in continual motion, restless pacing up and down, or wringing the hands.

Other, secondary signs of depression may be misleading, since they are not pathognomic nor will they all be present in any

one individual. A sad facial expression and a dejected posture are obvious clues. A lack of interest in dress or appearance may similarly indicate a general lack of interest in life itself. However, a severely depressed person may still be able to summon up enough inner resources to present a cheerful exterior to the world. This so-called 'smiling depression' may only be detected from a certain shallowness of response and lack of spontaneity or by the dejection which is only evidenced when the person is in repose or 'off-stage'. There are depressions in which the mood aspects are not emphasized or recognized and other things appear to be predominant. A person, not thinking of himself as being depressed, may develop certain persistent bodily symptoms: a feeling of discomfort in the stomach, recurrent headaches, or pains in the neck, back, and legs which he may describe as arthritic. Yet he must be categorized as depressed because of accompanying symptoms of the characteristic type. Loss of appetite and weight are particularly important signals. In anorexia, a patient may 'act out' an emotional distaste for life and slowly but literally commit suicide by not eating. Fatigue is the most common somatic equivalent of depression. Complaints of feeling exhausted, weak, or tired pose the question: is this actual exhaustion, actual weakness, actual fatigue or just the organic expression of emotional or mental processes? Exhaustion can also be the signal of a debilitating illness or of chronic heart disease. One means of differentiating between fatigue of this sort and neurotic fatigue is that the genuinely tired person gets up refreshed from rest or sleep and the depressed person does not. Low blood pressure or a rapid pulse might also be an index to actual fatigue; however, many depressed people show an increased pulse rate as a somatic expression of anxiety.

The psychic component of anxiety is an unpleasant feeling of uneasiness or apprehensiveness. Abraham expressed the idea that anxiety and depression are related in



the same way as are fear and grief.<sup>5</sup> Anxiety itself is not an illness but is, in the most accurate sense, a warning that symptom formation, including depression, may ensue. It may be indicated by a patient's over-concern with himself and with his family or environmental pressure,<sup>6</sup> by over-cleanliness, unrealistic requests for surgery, or intrinsic worries about health. Or it may be manifested through a suddenly increased or obsessive interest in religious matters.

Accident proneness makes a good deal more sense when viewed as a part of depression rather than as an isolated symptom of neurotic behavior. Frequent small tool accidents suggest a depressive tendency with the implied self-directed hostility and damage. And it is quite possible that a good many 'accidental' automobile fatalities are in reality psychologically initiated escape mechanisms. Suicide has been described as man's most extreme expression of hostility toward himself. Quite often it is a retaliatory effort—it is committed *against* something or someone. As such suicide must be viewed as a symptom of depression rather than as a separate psychiatric entity. In the dynamics of depressive illness, when hostility against the outside world is repressed and turned inward, an effort to destroy an introjected lost object may result in self-destruction. This is borne out by statistics which show that in countries where there is a low incidence of suicides there is a correspondingly higher rate of homicides.

In this country suicide is the ninth leading cause of death. It is three times more com-

mon in men than in women,<sup>7</sup> and the rate of incidence increases in the older age groups. For what it is worth, viewed statistically, a man is more likely to take his own life in the early morning of a clear day in May or June and during the first part of the week.

Any depressed person must be considered a suicidal risk despite many mistaken beliefs which have become so embedded in popular folklore that they are difficult, or impossible, to dislodge. The most common misconception is that a person who threatens to commit suicide never does it. The threat should, without exception, be taken seriously and precautions instituted to prevent its materialization. Case studies show that a majority of the people who take their own lives have given some previous warning—repeatedly and to more than one person. And one cannot accept at face value a patient's reassurances or promise that he "wouldn't do anything like that." It is equally mistaken to believe that a person will be deterred from suicide by religious convictions which prohibit it, that children never kill themselves, and that mental deficientes are too stupid to do it.

The patient who has already made a suicidal gesture or attempt is not one in whom one needs to await further development of psychopathologic symptoms before deciding he is emotionally or mentally disturbed and in need of prompt attention. He should be kept under twenty-four hour surveillance. If he remains at home while awaiting psychiatric referral, he should not be allowed to sleep in a room alone or to go anywhere unobserved. An individual who has made an unsuccessful suicide attempt in a previous episode of depression is more of a suicidal risk in a second state of depressive illness. In the patient who has made no threats or attempts, another danger signal of possible suicide is preoccupation with ideas of unworthiness or sin for which self-destruction might be con-

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sidered an appropriate retribution. These strong guilt feelings may be occasioned by actual past mistakes or indiscretions, either trivial or serious, or be delusions about having committed such deeds. The patient with profound physiologic disturbances must also be considered a risk, although he may deny feelings of despondency and the depressive content which is typical. In certain cases the idea of self-destruction may be contagious. The suicide of a prominent public figure who was greatly admired by a patient may be the immediate cause of his taking his own life. A history of suicide in a person's family is of particular significance; many suicides are found to have been committed at the same age or on the exact day of the year when a close relative of the individual died years before by his own hand. Paradoxically, the period of recovery may be one of greater danger. A patient in the depths of depression with concomitant extreme psychomotor retardation is not as much of a suicidal risk at that point as he will become later when his depression begins to lift and he becomes more active, mobile, and responsive. Or a person who seems to improve suddenly after a long period of depression may only be experiencing a temporary relief from anxiety and guilt because he has made a firm decision to kill himself in the near future. Finally, although we now have effective anti-depressant drugs, none of them act promptly enough to produce immediate relief of depressive illness. A person who is receiving such drugs cannot be considered out of danger until his depression is quite lifted.

To be of value in detecting and evaluating depressive illness all characteristic signals must be viewed in the context of the patient's pre-depressive personality. A marked change in an individual's behavior pattern is of more significance than his apparent state at the time of examination. Similarly, the diurnal variation of symptoms may be of more importance diagnostically than the type of symptoms exhibited. The physician should not overlook any source by which such emotional disturbances may be elicited or clari-

fied. Direct questioning may uncover such obvious depressive tendencies as previous attacks of depression or elation or a prolonged illness in which fatigue, apathy, or inertia were evident. However, some people are so accommodating that they will say whatever they think is desired or expected in answer to a leading question. On the other hand, many patients are unwilling to present themselves in what they feel to be an unfavorable light and will disguise emotional distress behind a false front of organic complaints. A physician can offer his patients the greatest help by giving them his time and by recognizing that listening is the most valuable method of gaining insight into what might otherwise be concealed emotional symptomatology. Listening can be time consuming and the physician is well justified in charging for it.

Because of its nature as a self-limited disorder, the prognosis for depression is good. Often time cures the patient, not what is done for him. The illness, however, may be shortened or relieved with proper treatment, and without it some depressed people may die from exhaustion resulting from over-activity and inadequate food. Psychiatric referral is indicated when a patient makes no apparent progress within a reasonable time—perhaps six to eight weeks; when self-recrimination and guilt feelings are prominent and disturbing, suicidal preoccupations are continuing, intrinsic attitudes and expressions of hopelessness persist or deepen, or exhaustion from markedly reduced food intake and agitation progresses rapidly.

#### SUMMARY

The most common danger signals pointing to a psychiatric depression are: unusual feelings of despair, unworthiness and guilt, reduced mental activity and psychomotor retardation, diurnal variation in mood and somatic symptomatology, and sleep disturbance of a specific nature. Other signs are anorexia, loss of weight, fatigue and other somatic equivalents, a dejected countenance and posture, lack of interest or care in dress and appearance, anxiety, an increased or obsessive



interest in religion, and accident proneness. The underlying dynamics of a major depression are virtually always the loss, real or fantasied, of a loved person or idea and the resultant disappointment, frustration and hostility. Depressive symptoms (the most of them unrecognized) may be channelized by the patient into the physical area, denied completely, or disguised behind a cheerful appearance in efforts to avoid recognition of hostility. The physician should recognize that suicide is a possibility in any depressive reaction and a more probable risk where there have been suicidal threats or attempts or a past history of suicide in the family. A person who seems to be recovering from a depression or who is receiving anti-depressant drugs cannot be dismissed as being no longer a suicidal risk. All symptoms characteristic of depression should be viewed in the context of the patient's pre-depressive personality. In detecting and evaluating the illness, a physician should not overlook any source from which such emotional disturbances may be brought to light: history-taking by direct questioning, cultivation of the art of listening to the patient, and communication with members of his family or close associates. Only by such careful attention and fore-knowledge can he realize the primary goals of a physician—to make a sick person more comfortable, to protect his life, and to aid him in achieving a healthy and productive enjoyment of living.

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Vaccine prepared from virus grown in duck embryos appears to be the agent of choice in the prophylaxis of rabies, two investigators of the New York City Department of Health report.

In a two-year study involving 250 subjects, the investigators found that the duck-embryo vaccine was superior in two respects to the more commonly used vaccine (Semple) prepared from virus grown in rabbit-brain tissue. Use of the duck-embryo vaccine led to earlier development of protective rabies antibodies and was free of the complication of encephalomyelitis.

Morris Greenburg, M. D., and Jean Childress, B. S., compare the two vaccines in a report in the *Journal of the American Medical Association*.

Two of the 127 patients receiving the rabbit-brain vaccine became ill with encephalomyelitis, but recovered. There were no cases among 123 treated with duck-embryo vaccine.

This encephalomyelitis is a destructive inflammation of the brain and spinal cord which sometimes, like poliomyelitis, produces permanent paralysis, and even may result in death. When it is associated with the use of vaccine, its cause is thought to be related to myelin from the rabbit brain. Myelin is a complex, fatty substance that covers the sheath of nerve fibers.

The duck embryo used to produce the new vaccine does not contain the paralysis-producing myelin.

In neither vaccine can the virus strain used cause rabies in man because it is killed. In addition, the virus in the duck-embryo material is dried, and thus the vaccine remains stable and potent over a long period.

The principle of the new vaccine was discovered and the product developed in the biological research laboratories of Eli Lilly and Company. Its development took six years.

The New York investigators report that by the tenth day after the first injection 74 percent of the subjects treated with duck-embryo vaccine had significant levels of rabies antibodies, contrasted to 35 percent for those treated with the rabbit-brain vaccine. From the eleventh to the fifteenth day there was no significant difference in blood levels for the two groups.

Booster effects were readily obtained with both vaccines, with the booster dose being given six to nine months after the beginning of treatment. Four persons who had received one or more series of injections as long as twenty years prior to the study still had circulating antibodies in their blood and responded with a booster effect after a single injection.



## PHENOTHIAZINES AS ANTIEMETICS AND TRANQUILIZERS\*

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The subject of phenothiazines is an extremely modern one, since these drugs have been in clinical use only since the properties of promethazine were discovered in 1946 and especially only since the advent of chlorpromazine in 1952. However, the phenothiazine story actually had a colorful beginning in 1883 when Bernthsen identified the fairly simple structure of the phenothiazine molecule (Figure 1) while preparing methy-

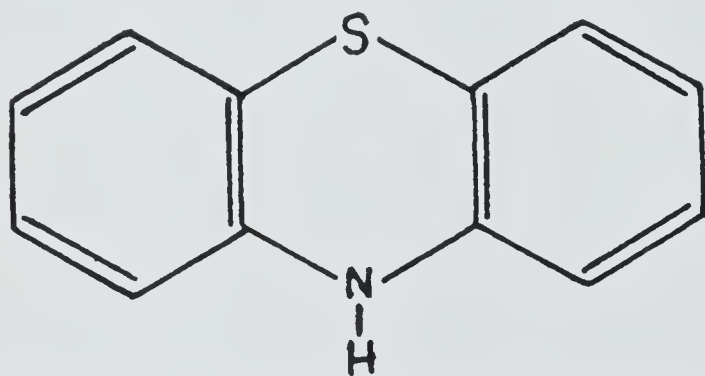


Figure 1: Basic phenothiazine structure

lene blue in a new manner. Later, phenothiazine was found to have urinary antiseptic and tuberculostatic properties but in this simple form it was too toxic for clinical application. It found some use as an insecticide and in Australia it was used as a treatment for intestinal worms in sheep. During this early period, no clinically useful derivatives were produced by ring substitution. The clinical story of phenothiazine really began only fourteen years ago.

It was in 1946 that Halperin in France was conducting an intensive search for improved antihistaminic drugs. As part of his screen-

ing, he investigated many of the ring-substituted phenothiazines and from this neglected group selected one drug which appeared to have promising characteristics. This was promethazine (Figure 2) which was found to

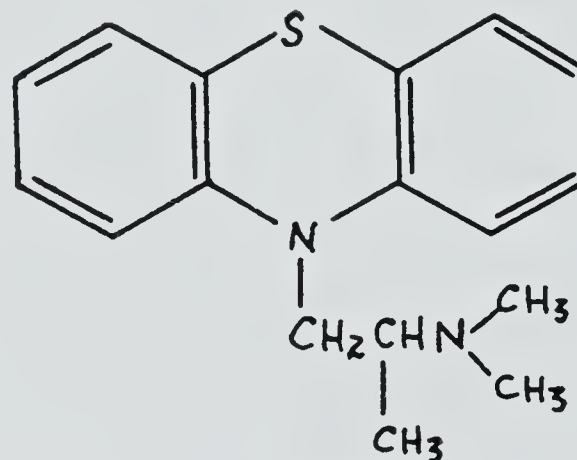


Figure 2: Promethazine

be less toxic and more potent than other antihistaminics which were then available. The drug was useful clinically but perhaps its greatest value was derived from the fact that its sedative and antiemetic properties stimulated research into phenothiazines generally.

Introduction of the next phenothiazine, chlorpromazine (Figure 3), was an extreme-

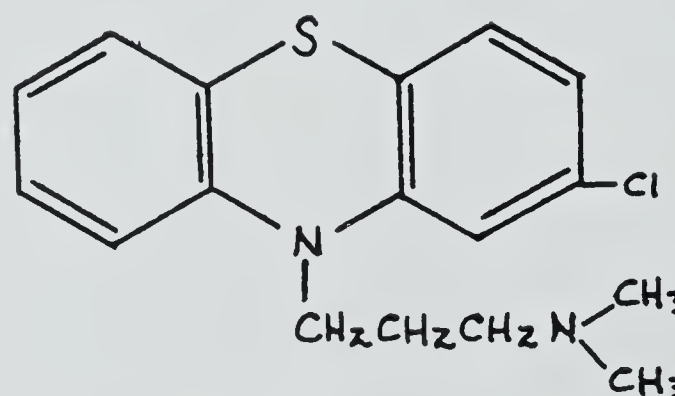


Figure 3: Chlorpromazine

ly significant development. High doses of this drug had a remarkable effect on psychotics and particularly on schizophrenics. Chlorpromazine was thus the first of a large class of drugs, now called tranquilizers, which produce a state of calm and relieve tension without a soporific effect or impairment of motor

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\*\*Medical Research Division, Schering Corporation, Bloomfield, New Jersey. The author is grateful for photographs provided by Dr. Samuel Irwin and Miss Margaret Sherlock and for editorial assistance provided by Miss Trudy Drucker and Mr. Carroll H. Weiss.



function. We now know that these tranquilizers act primarily on a subcortical level rather than at the cortical sleep-producing level; apparently they do not significantly depress the medullary vital centers. With widespread clinical use, however, chlorpromazine became associated with an incidence of undesirable side effects, and promazine (Figure 4) was elaborated by medicinal chemists in

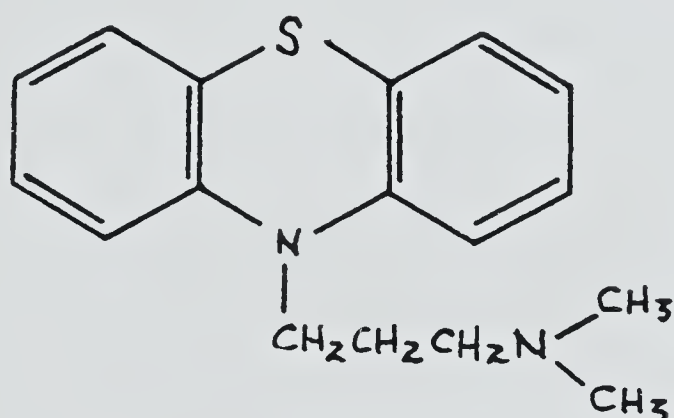


Figure 4: Promazine

an attempt to eliminate these effects. The single modification, elimination of the chlorine atom at the number two position, showed that many of the side effects were not related to its presence, as had been supposed; however, much of the potency was related to the chlorine atom.

With this new information at their disposal, the chemists then added a piperazine ring and a very marked change in the potency was observed in at least two of the resulting compounds. Addition of a piperazine ring as in prochlorperazine (Figure 5) produced an ap-

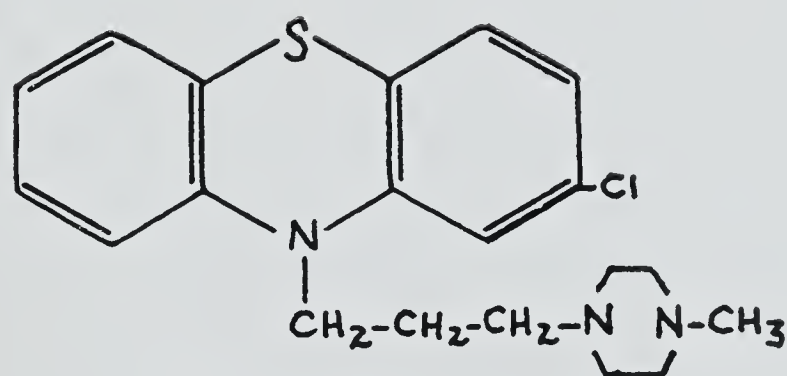


Figure 5: Prochlorperazine

proximate threefold increase in tranquilizing potency; in perphenazine (Figure 6), the

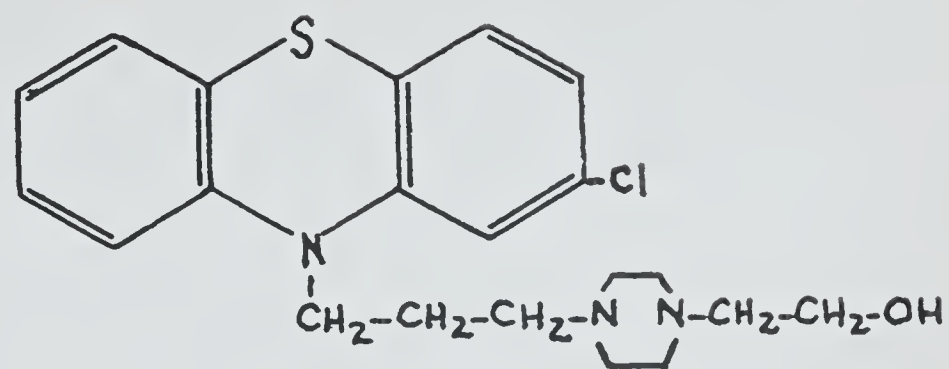


Figure 6: Perphenazine

potency increase was approximately sixfold. More significantly, the substitution of the piperazine ring in these compounds created a new class of drugs which, in four years of clinical experience, has not been associated with agranulocytosis. The incidence of jaundice, if it exists at all, is infinitesimal. The occurrence of hypotension was greatly reduced; photosensitivity was abolished; and the bizarre endocrine effects (weight gain of thirty to forty pounds) did not occur.

This progress encouraged still further research with piperazine-ring phenothiazine tranquilizers. Chemists at the Schering Corporation synthesized Sch-6673 (Figure 7), the

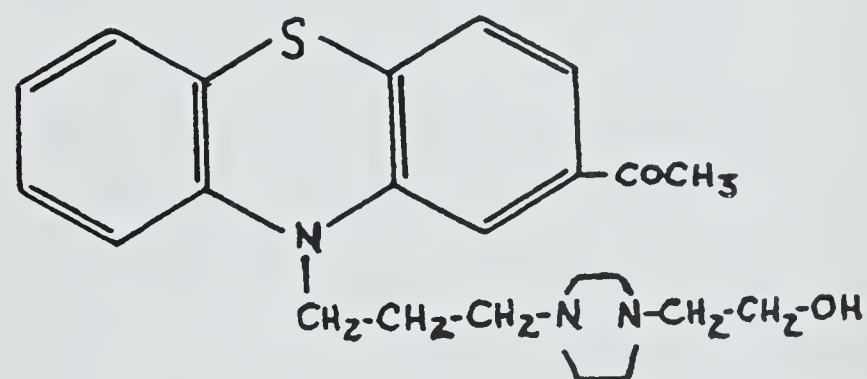


Figure 7: Sch-6673

two-acetyl derivative of perphenazine, in the hope of dissociating the antiemetic and tranquilizing properties of the parent drug. Although the tranquilizing potency was reduced and the sedative effect somewhat increased, the experiment was not entirely successful. Clinically the antiemetic action was not greater than that of perphenazine although some separation of effect did occur in that extrapyramidal effects are abolished at doses which produce sedation and some tranquilization.



## PHENOTHIAZINES

Further modifications of piperazine-ring phenothiazines are shown in Figures 8, 9, and 10. The latter two are new drugs of consid-

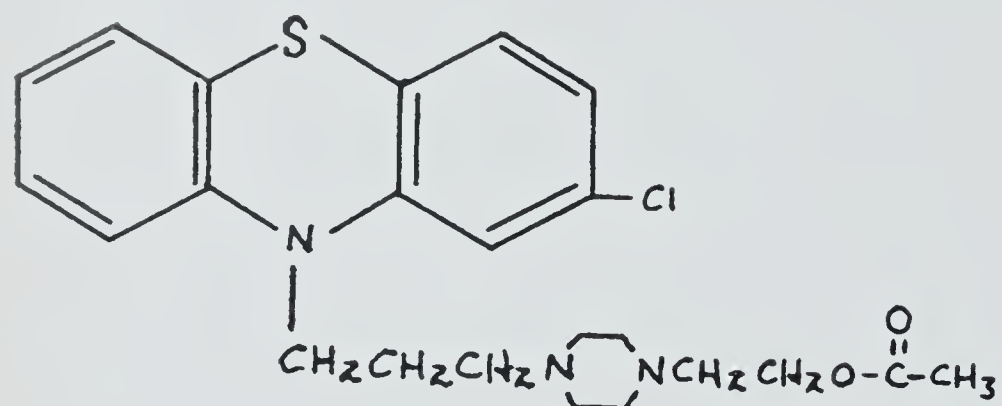


Figure 8: Thiopropazate

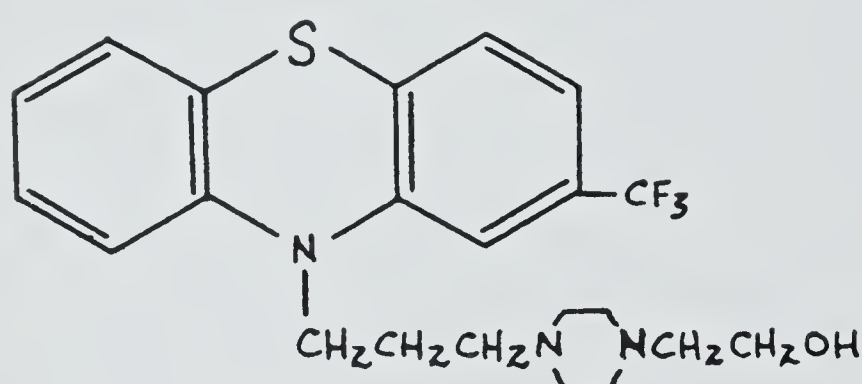


Figure 9: Sch-6894

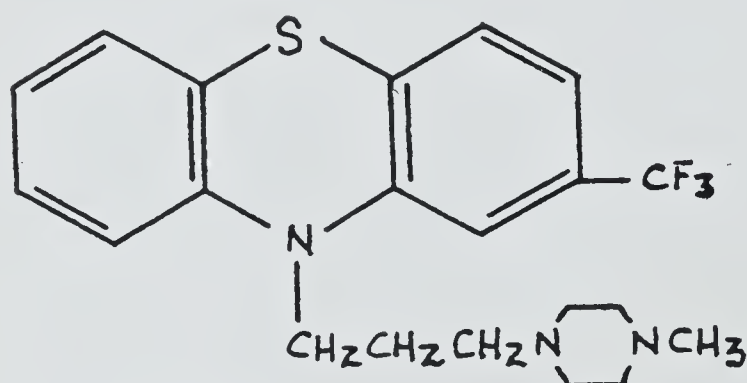


Figure 10: Trifluoperazine

erable potency; Sch-6894 produces tranquilizing effects in psychotics in doses of one-half milligram and trifluoperazine in doses of one milligram. Although the antiemetic effect of these two drugs has not been thoroughly investigated, they undoubtedly possess this property to some extent. The particular advantage of these three drugs, compared to others in their class, is that they are significantly less likely to induce drowsiness. Patients remain remarkably alert and this is desirable in many situations.

Phenothiazines with the piperazine ring produce extrapyramidal reactions to a greater extent than do phenothiazines without this ring. This generalization is only partly true since Sch-6673 can induce parkinsonian tremors, rigidity, akathisia in the form of increased motor restlessness, or dystonia manifested as muscle spasm, only in very high

doses. As a true tranquilizer, however, this drug probably is not as effective as perphenazine. Thus far, we have found with piperazine-ring tranquilizers that their clinical effectiveness is directly related to their potency, at least in terms of a true tranquilizing effect. Remarkably, the increased potency is not accompanied by the dangerous side effects of jaundice, agranulocytosis, or hypotension, all of which are extremely uncommon with these potent drugs.

Extrapyramidal reactions occur most commonly in mental hospitals where higher doses of the piperazine-ring phenothiazines are used. Such reactions are rare with the lower doses used in general practice; perphenazine, for example, is rarely administered in doses exceeding 16 mg. daily. However, one bizarre effect does occur, perhaps once in every thousand patients, with all the more potent of these drugs: dystonia or muscle spasm. If the possibility of this effect is anticipated it often can be prevented by not overdosing (especially in children and especially if they are dehydrated) and by discontinuing dosage (especially in children) as soon as it is no longer required. Because dystonia, when it occurs, generally appears within 72 hours after dosage has been started, therapy should be withdrawn, for example, as soon as vomiting stops even if only one dose has been administered. If relatively long-term dosage is contemplated, concomitant administration of low doses of a barbiturate for the first three days usually will prevent the rare occurrence. An antiparkinsonian agent such as benztropine methanesulfonate, one or two mg. once or twice daily orally or parenterally, or a barbiturate parenterally usually will rapidly abolish this effect. General supportive measures, especially maintenance of a clear airway, are essential. Knowledge of the existence of this possible side effect is imperative.

Generally, the longer a phenothiazine is administered, the greater is its safety. This fact was stressed by Ayd,<sup>1,2</sup> who conducted clinical studies among patients receiving a phenothiazine for three to five years.



## PHENOTHIAZINES

Two interesting phenothiazine compounds, recommended for use solely as antiemetics, are depicted in Figures 11 and 12. In pipamazine (Figure 11) there is pharmacological

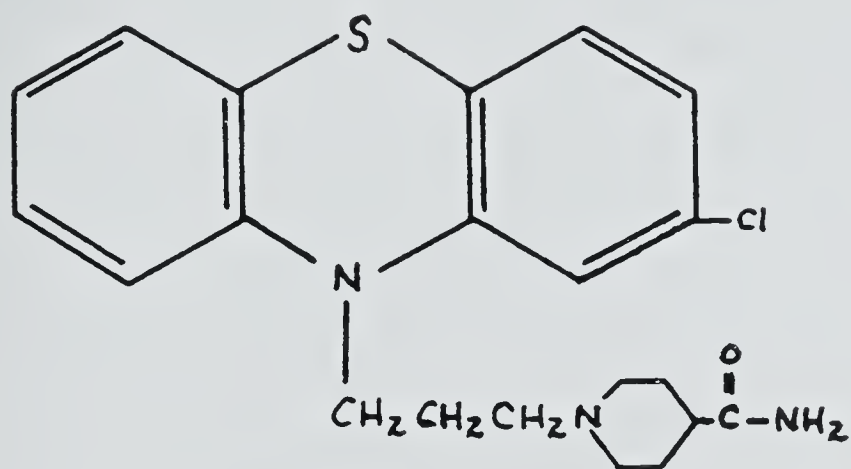


Figure 11: Pipamazine

evidence that the tranquilizing and antiemetic effects have been separated; however, rather high doses are used. Schering scientists found that these effects in Sch-6673 (Figure 7) appeared to be separated in the laboratory; clinically, however, this was not evident. Thioperazine (Figure 12) is an ex-

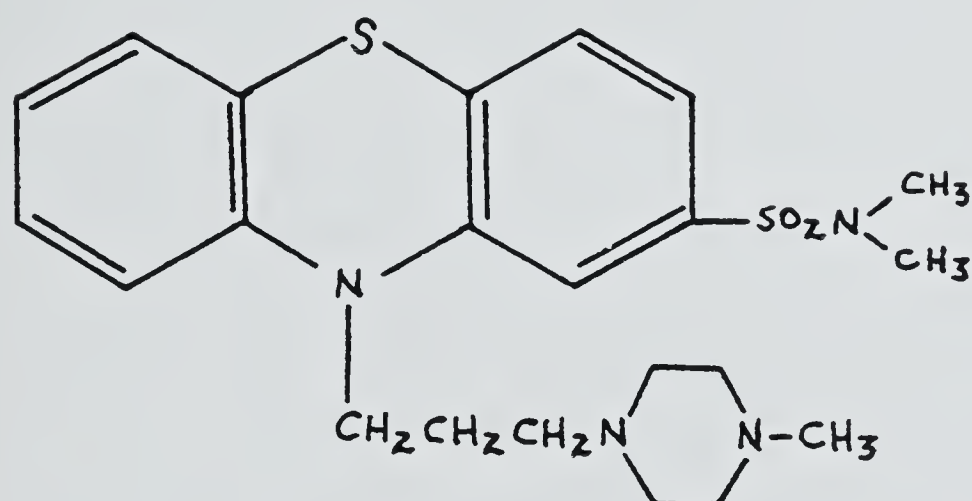


Figure 12: Thioperazine

tremely potent antiemetic not yet released for clinical use. Friend<sup>3</sup> and Denber<sup>4</sup> have reported on it. The linkage at the number two position is new, and it will be interesting to see how this promising antiemetic performs in clinical use. Comparative studies of these compounds will be enlightening.

Two new compounds (Figures 13, 14) are being advocated for tranquilization. Thioridazine (Figure 13) is a full-range tranquilizing compound used in rather massive dosage. Methoxypromazine (Figure 14) is a milder and more sedative tranquilizer. Clinical tests with these two drugs are still in the prelimi-

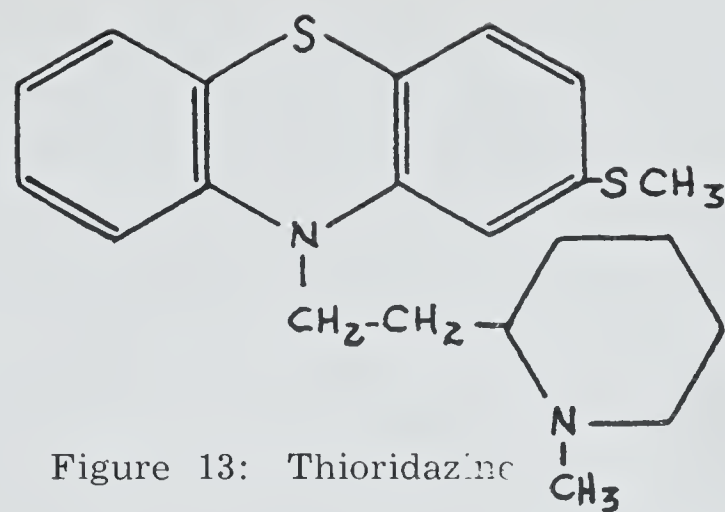


Figure 13: Thioridazine

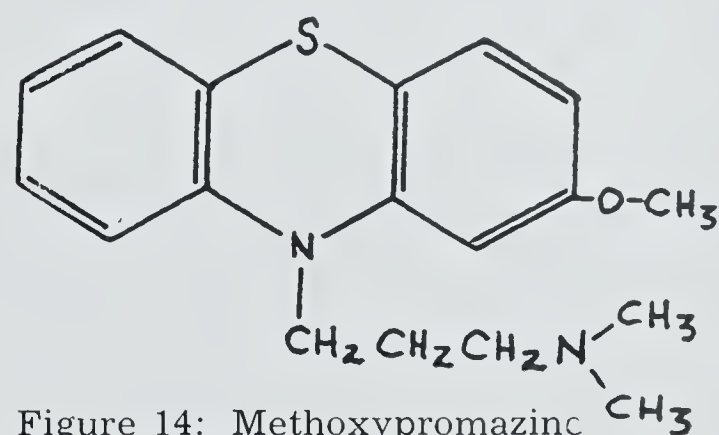


Figure 14: Methoxypromazine

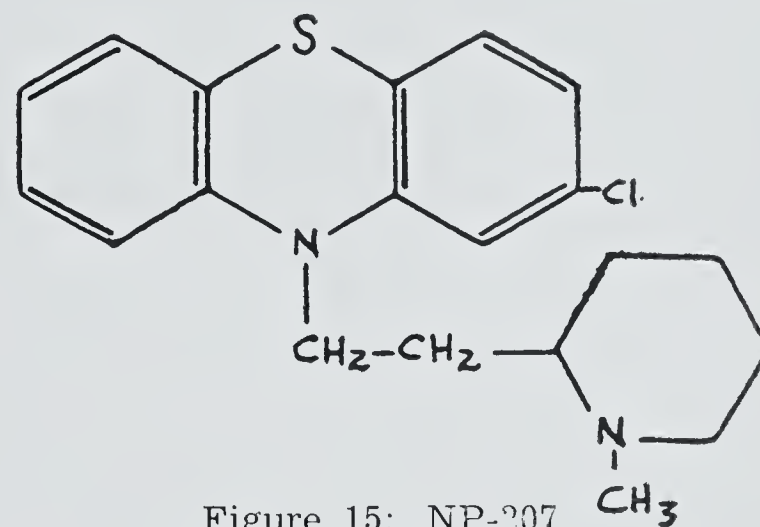


Figure 15: NP-207

nary stages. NP-207 (Figure 15) is an experimental phenothiazine introduced a few years ago and rapidly withdrawn from clinical research after a few cases of retinitis pigmentosa had occurred.

By addition of a trifluoromethyl group at the number two position the potency of promazine was enhanced in triflupromazine (Figure 16) but no change occurred with respect to side effects. Mepazine (Figure 17)

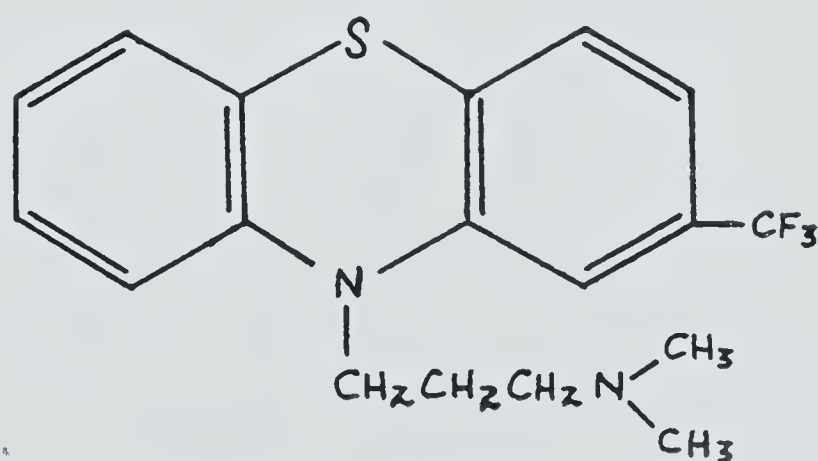


Figure 16: Triflupromazine



## PHENOTHIAZINES

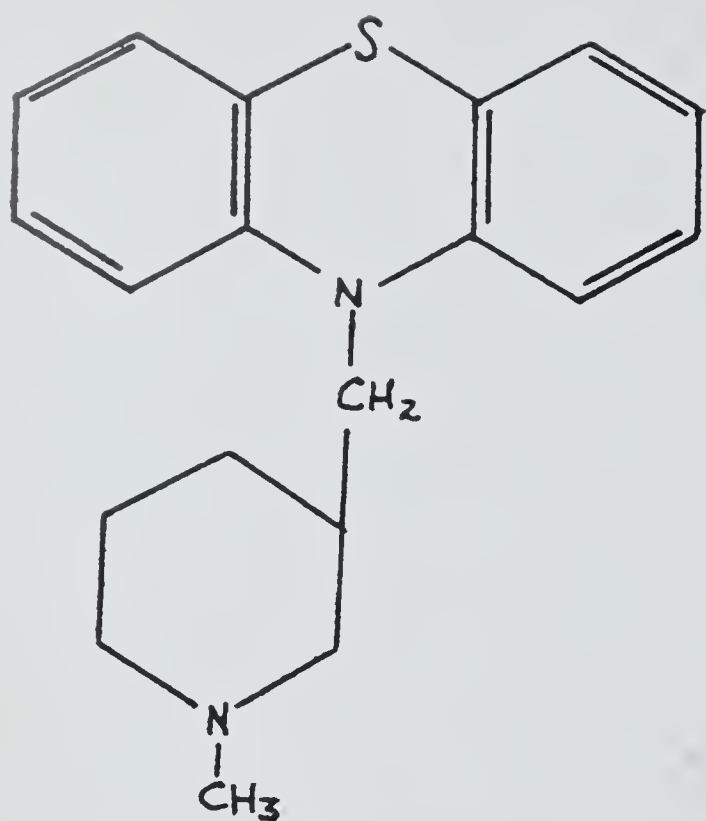


Figure 17: Mepazine

has been used in the field of mental health; it is unique because of the  $\text{CH}_2$  chain which, however, does not seem as useful as the  $\text{CH}_3$  class of compounds, such as chlorpromazine, with respect to efficacy or freedom from side effects.

There are two phenothiazines, ethopropazine and diethazine (Figures 18 and 19), in

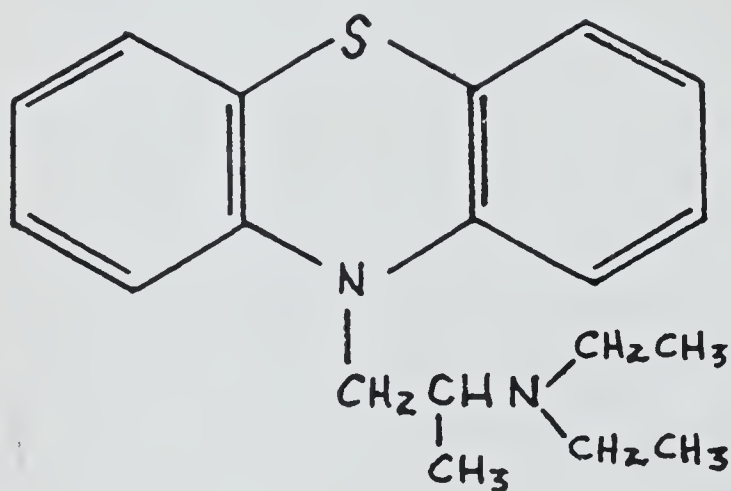


Figure 18: Ethopropazine

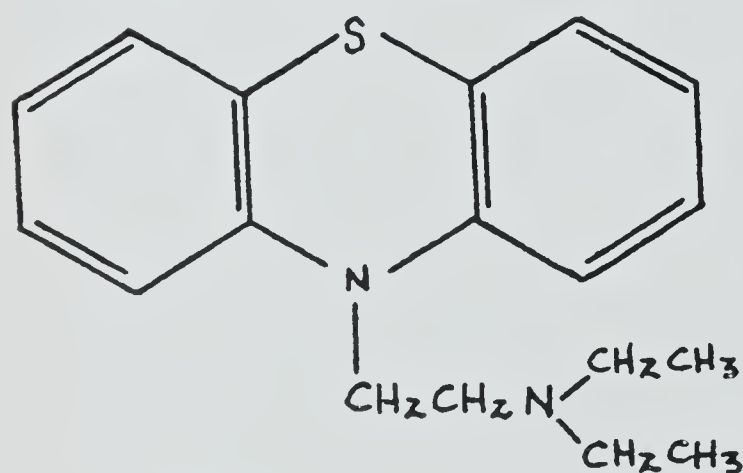


Figure 19: Diethazine

which minor structural changes produced antiparkinsonian properties. These agents reduce tremor and rigidity but have not been very successful clinically.

The amazing versatility of this group of compounds is further exemplified by modifications of phenothiazines depicted in Figures 20, 21, and 22. Pyrathiazine (Figure 20) is

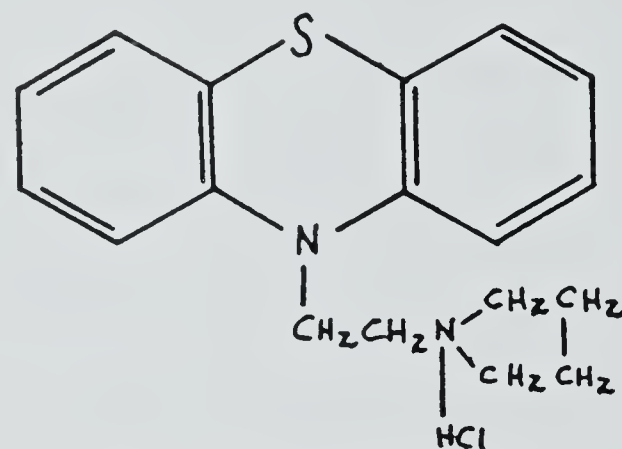


Figure 20: Pyrathiazine

an antihistaminic agent, not in clinical use, in which modification has produced an effective but unfortunately toxic diuretic. Imipramine (Figure 21) is a compound which

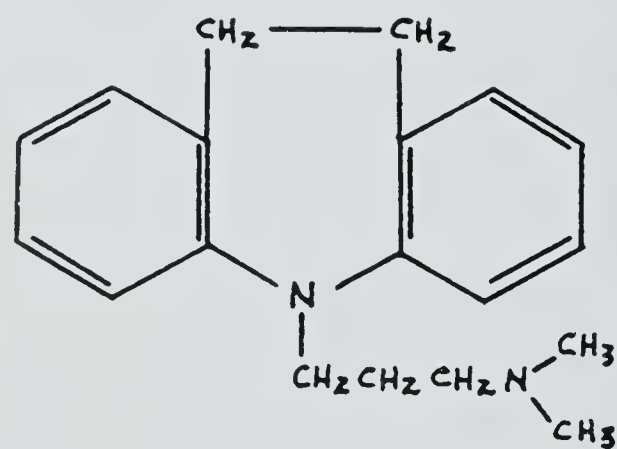


Figure 21: Imipramine

properly speaking is not a phenothiazine at all since it lacks the sulfur atom in the appropriate position. It was obviously modified from promazine, and a very difficult job that was. It has been available for some years for clinical trial in schizophrenia and recently its antidepressant action was detected clinically. Now the pharmacologists are attempting to devise tests which will record the behavioral action of the compound. Trimeprazine (Figure 22) is also an antihis-

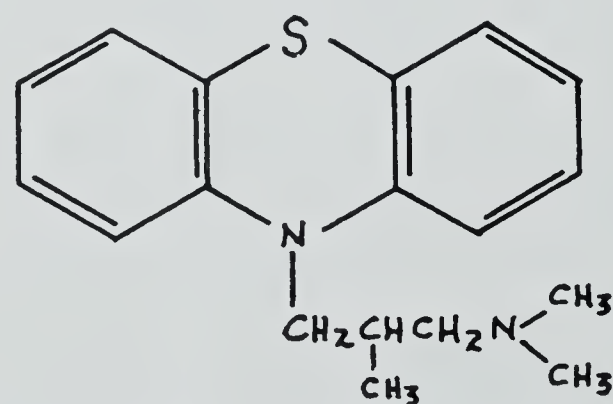


Figure 22: Trimeprazine



## PHENOTHIAZINES

taminic drug which appears to have specific antipruritic properties.

With at least ten manufacturers now marketing at least sixteen chemical relatives of phenothiazine, it is difficult for physicians in clinical practice to keep fully informed about all agents in this class. It is comforting to know that development, testing, and toxicity studies with these compounds are so elaborate and expensive that only the superior drugs emerge. Pharmaceutical companies do not lightly undertake the high costs; also, government regulations and requirements for toxicity studies are extremely stringent.

Reports of clinical experience by Ayd,<sup>1, 2, 5-10</sup> Moyer,<sup>11</sup> Friend,<sup>3</sup> Wang<sup>12</sup> (on antiemesis), Hollister<sup>13, 14</sup> (on side effects), Himwich,<sup>15, 16</sup> Goldman,<sup>17</sup> Freyhan,<sup>18-20</sup> and Kline<sup>21, 22</sup> indicate the therapeutic characteristics of phenothiazines. Obviously, the goal of research is clinical efficacy with a min-

imum of side effects. How does one find such agents? Which testing procedures are helpful? At present, attempts are being made to localize the action of these drugs in the reticular activating system around the hypothalamus for tranquilization and in the chemoceptive emetic trigger zone of the reticular system for antiemetic activity (Figure 23). This is not easy; an impressive array of behavioral tests in animals (Figures 24 and 25) is used to determine the pattern

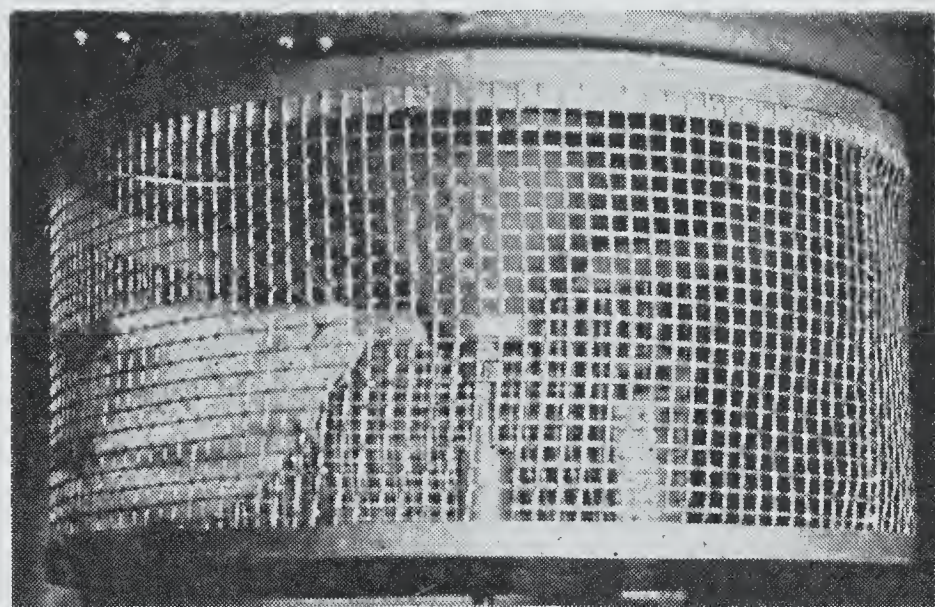


Figure 24

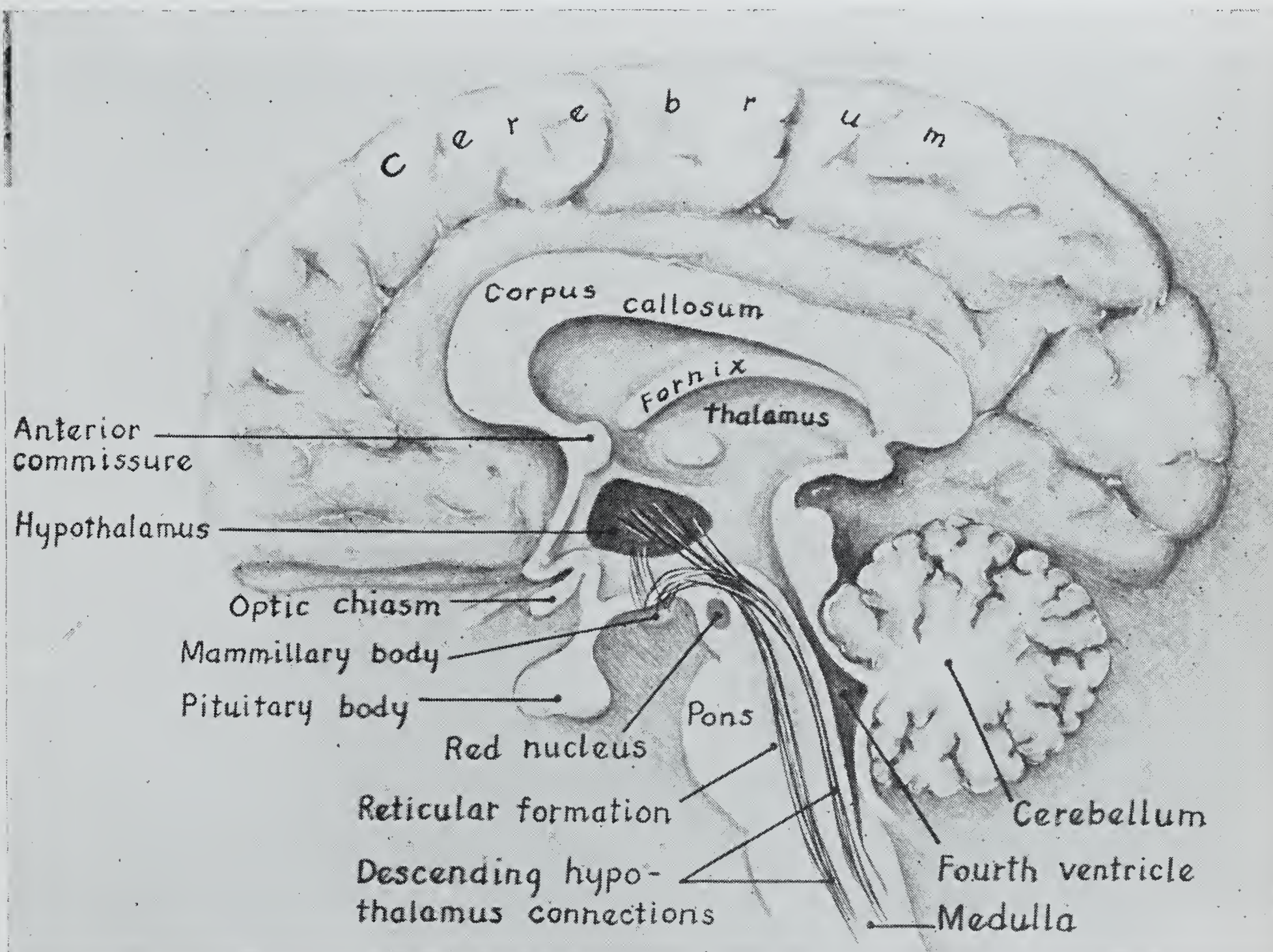


Figure 23



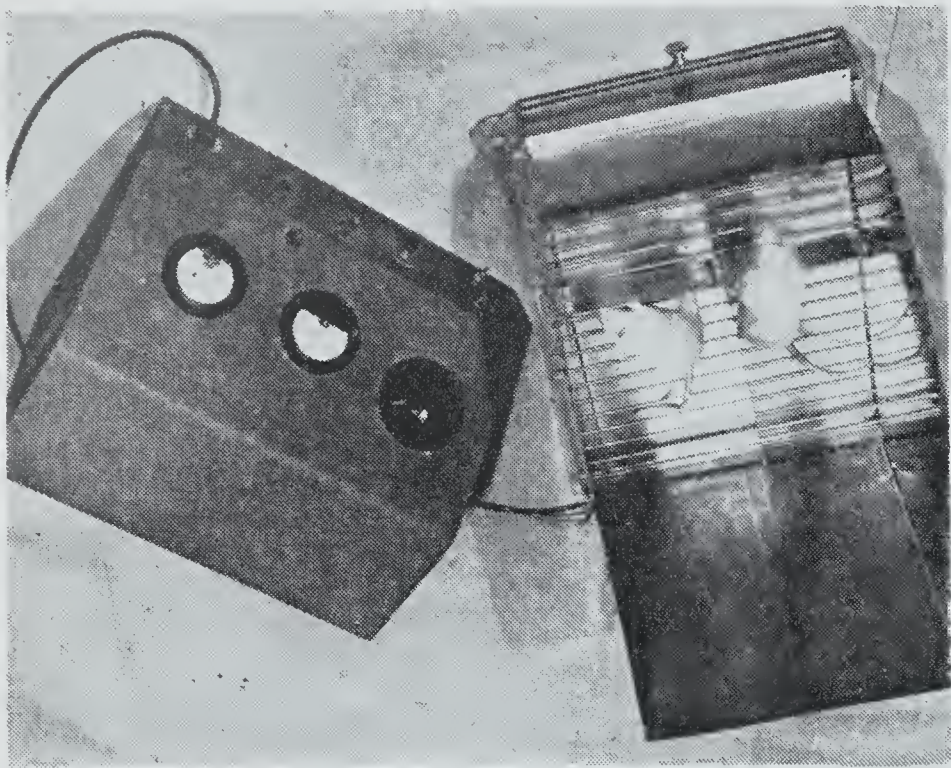


Figure 25

of probable properties of a compound under investigation. Also, the full spectrum of general pharmacological action is determined including antihistaminic, anti-inflammatory, adrenergic-blocking, and serotonin-releasing activity. The treadmill tests measure locomotor depression in the rat; interestingly enough, the more hyperactive the rat is to begin with, the greater is its appropriate re-

sponse to tranquilizers or stimulants. This appears to be true, also, in the human although the correlation apparently does not hold true for any other behavioral tests. A bell stimulus will alert the animal to avoid a mild electric shock but a tranquilizer will prevent or diminish this response. By analogy, the tranquilizers can be considered to prevent in humans the hyperactive response to the numerous small disturbing factors in daily life.

The complexities of modern laboratory testing procedures are such that some of our behavioral scientists can be classified as electronics experts. New techniques must be evolved constantly to keep pace with clinical experience. For example, physicians recognized an antidepressant response with monamine oxidase inhibitors such as beta-phenylisopropyl hydrazine or with thymoleptic agents such as imipramine before pharmacologists developed adequate techniques to classify these compounds.

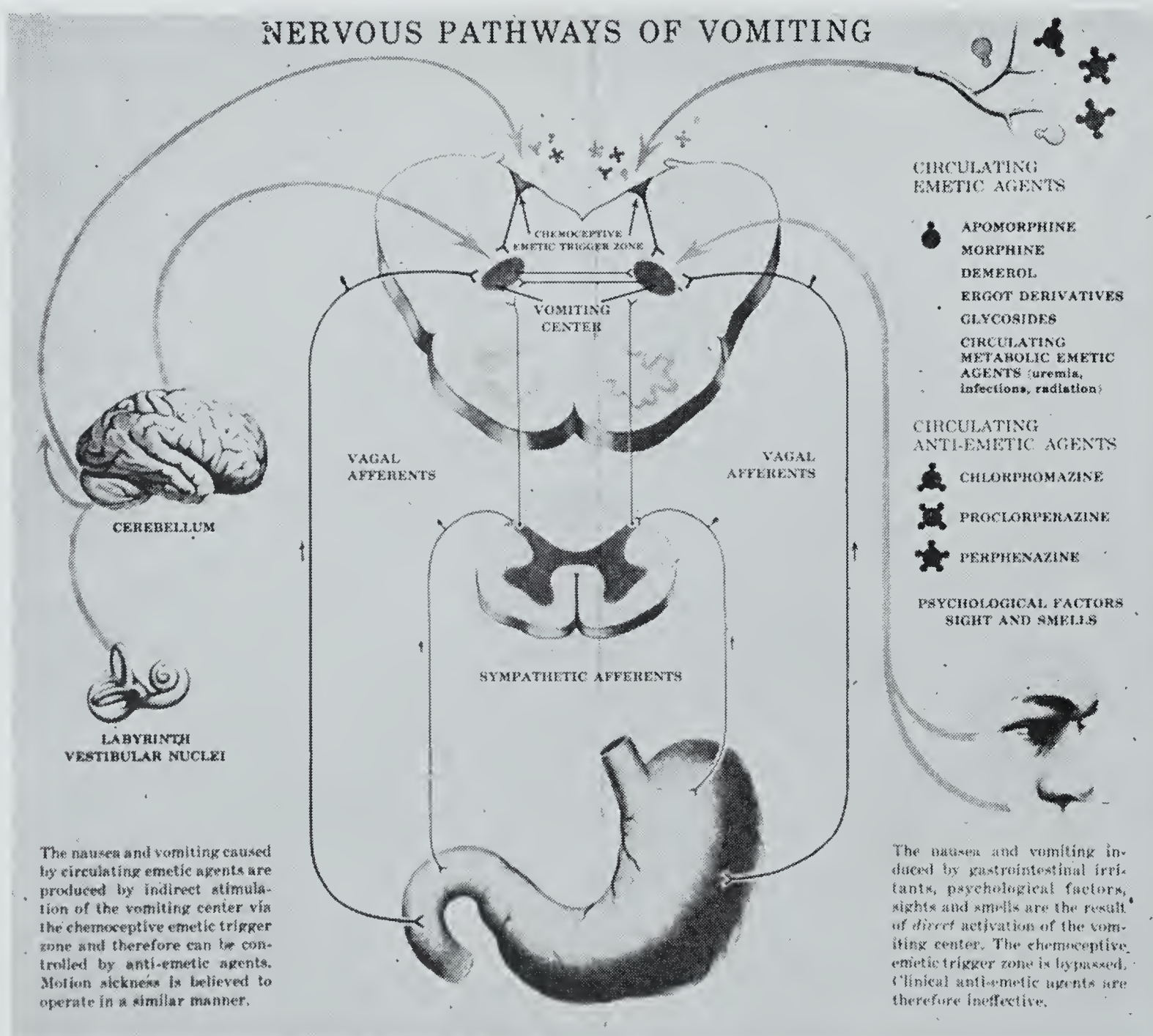


Figure 26



As Moyer<sup>11</sup> states, the increasing use of tranquilizing drugs in the treatment of the neuroses has been a response to the needs of people in these troubled times. As he also points out, however, the genesis of these problems usually is some type of interpersonal social difficulty which often appears insoluble. When these problems occur to emotionally vulnerable individuals, breakdown of the protective devices results in emotional disturbance. Severe, acute stress provokes the same effect in normal people. Drugs can help in these conditions but an attempt to provide psychotherapy, kindness, firmness, and understanding is obviously as important as drugs and the removal of the problem, if possible, probably will be of even greater benefit. In the severe psychoneuroses and particularly in the psychoses, drugs, especially the phenothiazines, play a major role even though the exact chemical and metabolic activity of these agents has not as yet been precisely defined.

The work of Wang and his group<sup>12, 23, 24</sup> is outstanding in classifying the mechanism of antiemetic activity of the phenothiazines. These investigators have demonstrated the existence of a true vomiting center deep in the medulla and of a superficial chemically sensitive trigger zone which regulates the emetic activity of both exogenous and endogenous chemical triggering agents. The phenothiazines may compete with circulating emetic agents at this site (Figure 26).<sup>24</sup> Confirmation of the fact that this zone is the specific anatomic locus for emetic and antiemetic activity was obtained when it was surgically removed for intractable vomiting in three patients with cancer.<sup>25</sup> One is still alive; vomiting cannot be induced in this patient even with three mg. apomorphine. It has not been necessary to perform this operation in other patients since some phenothiazines, such as perphenazine, are so specific in abolishing chemically-induced vomiting that their action is akin to ablation of this zone.

There are many questions about the emesis-antiemesis cycle which remain unanswered. For example, why are the phenothiazines

generally ineffective in preventing motion sickness? Perphenazine at least is not effective in preventing this condition.<sup>26, 27</sup> Claims for an effect against motion sickness with presently available phenothiazines probably are the result of uncontrolled experiments.

Recently a new agent has appeared which, although not a phenothiazine, apparently has an effect on the chemoceptive emetic trigger zone; however, clinically it has only a weak antiemetic effect.

In the study of antiemesis, highly controlled clinical trials are imperative since variability in the duration of vomiting and multiplicity of etiologies are among the many factors to be considered. As in other fields, a critical attitude should be preserved as new phenothiazines are introduced for antiemesis and tranquilization. There is, however, little doubt that improved phenothiazines will be developed and introduced in the near future.

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"Decision to reassign sex must depend upon careful evaluation of all factors," reports Dr. Edgar Burns in the Bulletin of the Tulane University Medical Faculty. Dr. Burns lists these factors to be evaluated as chromosomal sex patterns, the morphology of the external genitalia, the gonadal structure, the hormonal status, the sex rearing and the gender role. Findings must be incompatible with the normal environment of the assigned sex before reassignment is undertaken.

The incidence of abnormalities of the external genitalia is estimated as one in every thousand births. Physicians are advised to postpone pronouncement of sex of a new born showing abnormalities until essential tests have been run. To avoid the anxiety created by uncertainty, as much as possible should be done while the infant is in the hospital nursery. One of the most important of these tests is the determination of the chromosomal sex pattern.

Dr. Burns has presented a most lucid exposition of the studies needed in dealing properly with the difficult problem of genital abnormalities.

From the Bulletin of the Tulane University Medical Faculty. Vol. 19, No. 2, Feb. 1960.

## HEALTH BENEFIT PAYMENTS

Health insurance benefit payments by insurance companies to the people of Alabama climbed to a new high during 1959, according to a Health Insurance Institute report.

In the period from January 1 through December 31, 1959, said the Institute, an estimated \$34 million was paid out to help cover the cost of doctor and hospital bills, and to replace income lost through sickness or disability.

This represents a gain of 13.5 per cent over the 1958 figure of \$30 million, and is based on reports from insurance companies doing business in the state.

The rise in benefit payments in Alabama was reflected in the figures for the nation as a whole, the Institute declared.



## THE MANAGEMENT OF ALCOHOLISM

VERNELLE FOX, M. D.

There is a great deal of confusion about the subject of alcoholism, ranging from "this is an illness" to "it's a moral issue". Most of us have come to accept alcoholism as a health problem, not a moral or legal issue, but with little understanding of what it is.

The medical profession today is faced with the problem whether it likes it or not. The patients are in our offices and hospitals and whether he faces his drinking problem or not largely depends on the attitude of the physician. When the physician can resolve his own ambivalence about alcohol and the alcoholic the way is cleared for the patient to ask for help.

We are probably at about the point of understanding with alcoholism that we were with "consumption" a hundred years ago. It's a catch-all, a wastebasket of lumped together syndromes. The one common symptom is the addiction to alcohol to the extent of interfering with normal function and for the purpose of relieving anxiety. It is important to recognize that this is a complex, slowly developing process. When we look back over the history of these individuals, it is apparent that alcoholism starts as a symptom of an underlying emotional disturbance and that it ultimately becomes the cause of a rather profound mental and physical disability. It may be the manifestation of any psychiatric derangement. I have seen alcoholism secondary to mental deficiency, anxiety neuroses of all descriptions, latent manic depressive psychosis, and overt schizophrenia. I recall one man whose drinking was invariably set off by his auditory hallucinations. Alcohol would enable him to live in the outside world with his schizophrenia.

There is really no typical personality pattern. The baffling group is the one that manifests no overt psychiatric condition.

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Read at the 20th Postgraduate Seminar of the Alabama Academy of General Practice, Birmingham, Jan. 20, 1960.

These are people who seem "so normal if he just didn't drink". They have an amazing ability to maintain themselves, and their neurosis is overtly manifested only by their alcoholism. This is by far the largest group and it certainly is the most salvageable. This is the type patient most frequently seen by and in the medical profession. We all know one or two, either your favorite electrician, the vice-president of the real estate company, or someone similar. They're charming people, usually gracious, and very anxious to please—for several months at a time. Then for no obvious external reason, they are on a one to four weeks drunk, upsetting everyone around them and destroying much that they have established during the last few months. When they become sober, they become remorseful, apologetic and conscientious. They rapidly rebuild their previous acceptable position only to destroy it again.

Quite obviously, underneath the surface is an unending battle between basic or ontological anxiety and the anxiety secondary to alcohol. Essentially, these people have as their fundamental problem low ego strength and a very low sense of personal worth. In spite of external appearances, they do not consider themselves worthy of normal existence. They have never really felt totally accepted. They do not know what it is to actually feel loved. Even though love and acceptance may be manifested all around a person, he has to consider himself worthy of being loved to feel it. I will not go into the controversy of whether this basic mechanism is a congenital or an acquired difficulty. The important thing is to realize that the individual functions on this level at the time we see him as an adult alcoholic and that he has a potential for developing a sense of personal worth and a tolerance for his anxiety. Developing these potentials is the basis of therapy.

What does having an inadequate sense of personal worth do to an individual? It makes



him overtly-demanding, first of himself and then of those around him. He consistently needs to feel that he is perfect to over-compensate for his feeling of inadequacy. He tries very hard to buy love and approval, but since he is expecting more than is needed to satisfy the demands for love and approval of the average person, he is constantly frustrated. He always feels a sense of failure and never really acquires the thing he is looking for because of his inability to receive it. Symptoms of this feeling of inadequacy may be manifested at any point in the individual's life. Like other processes, such as basal metabolism, insulin formation capacity, etc., these symptoms come in all degrees, from extremely mild to extremely severe, and may appear at any time, depending upon the stress on the individual. I have seen patients manifest this difficulty in early childhood but it is more commonly seen in middle life. As a rule, the more severe the disability, the earlier the symptoms are seen.

Sooner or later, most of us are exposed to alcohol. Alcoholics learn rapidly that alcohol eases their discomfort and takes away the pain of feeling basically worthless. Their conscious motivation to take a drink is not essentially different from yours and mine. Theoretically, they intend to relax, to cease worrying about interpersonal relations and to be able to relate to the people around them more comfortably. Unfortunately, it doesn't come out that way. What is sedated is conscious control and awareness. When these controls are partially anesthetized, the buried tensions, hostilities and frustrations are released. The alcoholic will do and say, when drinking, things that are totally unacceptable to him, things he would never allow himself to do or say without alcohol, because it is so contrary to his needs to please and to buy attention. This action on his part serves to further lower his self-esteem, and he realizes he's out of control which sets up an immediate need for rationalization and denial of the difficulty.

Rationalization and denial are the major blocks to seeking help. Rationalization is not

on a conscious level. It is not just "ornery-ness"; it is a very profound necessity. An alcoholic simply must believe that he is too nice a person to behave like that, that it's somebody else's fault, that if she didn't and they hadn't, then he wouldn't. Anything else is too threatening to his self-concept. Sometimes the struggle in which he is engaged is almost visible. He feels inferior and inadequate; then he sees himself manifest inadequate and inferior behavior. This serves at one time to prove that he was right about himself and at the same time to be so threatening that he cannot look at it. This leads to a real squirrel cage, a vicious cycle of drinking, remorse, regret, misunderstanding, lack of acceptance, and criticism by the people around him, which further strengthens his sense of being misunderstood and rejected and thereby establishes a greater need for drinking. This is a steady downhill course that Dr. Jellinek calls "drinking because of the drinking". It is alcoholism. Unless the cycle is broken the ultimate development is death or insanity.

How can this cycle be broken? We all realize that the first essential step is motivation toward sobriety on the part of the patient. Until that point is reached, very little can be done. As long as the ontological anxiety outweighs the anxiety secondary to the alcoholism the motivation or push is towards drinking. After all, very few of us move in any direction except from discomfort to anticipated comfort. Nature and society contribute consistently to increasing the anxiety secondary to the alcoholism. The pain and discomfort of the hangover, the rejection of behavior while drinking, the loss of economy: these factors make the drinking progressively more painful. Where the medical profession can best serve its patients is on the other end of the see-saw, trying to decrease the basic anxiety.

We have a number of tools in our hands for this job. First, of course, is good medical care. An individual who is physically ill is certainly emotionally weaker than one who is physically well. More about this later. An



even stronger medicine in your armamentarium is acceptance—your own personal attitude toward this group of individuals and your understanding of why they function as they do. If you and I, whom they often symbolize as all-knowing, omnipotent, father substitutes, cannot understand and accept them, how can they accept themselves? If we can add hope and a belief in the fact that they can get well, to our therapy, it will further decrease the basic anxiety. Education and supportive therapy are tools that are useful, also. Insight into the exact nature of their disability is very important, and we can contribute to this.

This attitude should not be just a completely pampering and tolerant one, that would not be healthy, because the first essential in a therapeutic attitude toward the alcoholic is to set specific limits. These limits are: 1. The patient must be motivated to stop drinking and must do as much as is possible to tolerate his anxiety without resorting to alcohol. 2. He must, as rapidly as he can, begin to let go of his denial and rationalization. With this, be consistent. If you truly understand and accept his illness, to both of you this will be a manifestation of understanding and interest, not of criticism and control. These are practical ways to show him that you actually have a great deal of faith in his ability to function on a normal level; that you believe he can tolerate his anxieties without recourse to alcohol; that you actually think more of him than he thinks of himself. He can borrow your faith. By this, he can begin to grow because he feels that he is capable of growing. After all, the all-knowing doctor has manifest many symbols of his knowledge of the fact that he can grow. The doctor is offering understanding and acceptance but on a strictly “do-it-yourself” basis. He is taking him as he is, accepting him, and maintaining that he is capable of changing. He should offer no advice or condemnation or control but a simple consistent belief that he is perfectly capable, in time, of becoming a comfortable, produc-

tive, mentally healthy individual, if he refrains from taking the first drink.

He will test this in many ways. He will attempt to put excessive demands on you. First, to satisfy his needs for your approval and attention but more fundamentally to check to see if you really believe that he is capable of managing his own life. One of the most difficult things in working with alcoholics is our own frustration because of our need to do something for somebody. To comfortably treat these patients we must modify some of our basic concepts of the physician's role. Traditionally we expect ourselves to “cure” the patient—we accept the major portion of the responsibility for his welfare and rely on his blind faith in us to enable him to follow our instructions. Not so with the management of the alcoholic. The physician should only expect himself to be responsible for the medical management of the physical component of the illness and the patient must assume the responsibility for the rest. We can only recommend long range management such as AA clinics or psychotherapy—if the patient cannot accept our recommendation, it is not failure on anyone's part. When you're caught by this you start telling him how to manage his life. He realizes that you didn't actually think he was capable of doing it himself, and you've lost your greatest therapeutic tool for helping him mature. It has been correctly said that an alcoholic immediately knows whether you've been hoping with him or coping with him. Another problem is the time factor. We are accustomed to seeing the results of our efforts rapidly. Your efforts in working with an alcoholic may show no obvious results for months or years, but all satisfactory interpersonal encounters are growth processes and benefit the individual.

About six years ago a whole new field of psychopharmacology was opened. This greatly modified and improved our armamentarium for the medical management of the acute withdrawal symptoms and control of anxiety. Developments in this area have been so rapid and extensive that they are confusing. The



drugs that "modify mood" are becoming legion. Some are quite useful in the management of the alcoholic. Others are potentially habit forming and should be avoided. The following is a partial summary of these drugs grouped by their clinical effects on the alcoholic patient:

## CNS DRUGS IN RELATION TO ALCOHOLISM

I. Alephatic depressants—a. Depresses the cerebral cortex, b. Sedative and hypnotic action, c. Potentially habituating, d. Extremely limited usefulness only in full blown D.T.'s and should never be used for maintenance.

Examples: All barbiturates, chloral hydrate, paraldehyde, etc.

II. Tertiary alcohols & their esters—a. Act on cerebral cortex, b. Mild sedative effects, c. Potentially intoxicating and habituating, d. Guarded usefulness as sedatives for withdrawal.

Examples: Dormison,<sup>®</sup> Striatran.<sup>®</sup>

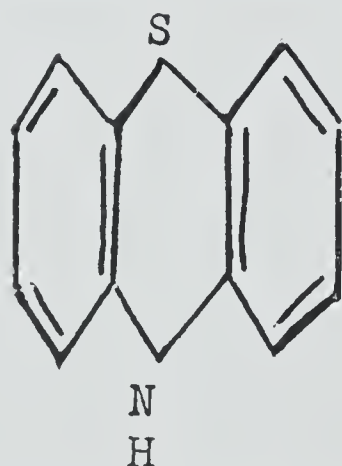
III. CNS stimulants—a. Stimulate the cerebral cortex, b. Cerebral excitement, counteract sedation, appetite suppression, c. Potentially habituating, d. Extremely limited usefulness to counteract oversedation.

Examples: All amphetamine derivatives and ephedrine like drugs.

IV. Rauwolfia alkaloids—a. Probably act in the hypothalamus, b. Reduce arterial B.P., quieting effect on agitated patients, c. Action slow, periods of excitement, severe depressions, hypotension, d. Limited usefulness.

Examples: Reserpine, Rescennamine.

## V. Phenothiazine derivatives (Ataractics)



Phenothiazine, Basic Structure

- Primary site of action in subcortex
- Potentiate sedatives and alcohol

Block anxiety  
Control nausea

- Dryness of mouth  
Hypotension  
Parkinson symptoms

d. Extremely useful for both control of acute withdrawal symptoms and control of anxiety during sobriety; not habituating.

Examples: A. Chlorpromazine Group

- Thorazine<sup>®</sup> (Chlorpromazine)
- Sparine<sup>®</sup> (Promazine)
- Vesprin<sup>®</sup> (Triflupromazine)
- Periactin<sup>®</sup> (Cyproheptadine)
- Phenergan<sup>®</sup> (Promethazine)
- Temaril<sup>®</sup> (Trimeprozine)
- Tentone<sup>®</sup> (Methoxypromazine)
- Plegicil<sup>®</sup> (Acepromazine)

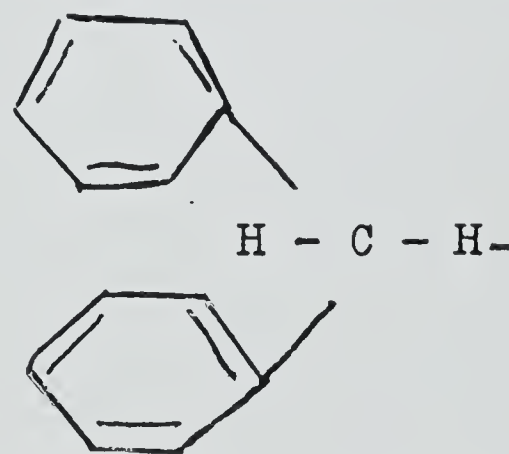
B. Piperazine Group

- Stelazine<sup>®</sup> (Trifluoperazine)
- Trilafon<sup>®</sup> (Perphenazine)
- Dartal<sup>®</sup> (Thiopropazate)
- Compazine<sup>®</sup> (Prochlorperazine)
- Permutil<sup>®</sup> and Prolixin<sup>®</sup> (Fluphenazine dihydrochloride)

C. Piperadine Group

- Pacatal<sup>®</sup> (Mapazine)
- Mellaril<sup>®</sup> (Thioridazine)

## VI. Diphenyl methane derivatives



Diphenyl Methane, Basic Structure

a. Action highly variable from compound to compound.

Examples: 1. Atarax<sup>®</sup> and Vistaril<sup>®</sup> (Hydroxyzine Hcl); Combines easily with phenothiazines, controls tachycardia, moderate quieting effect.

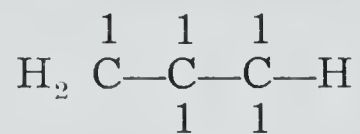
2. Frenquel<sup>®</sup> (Azocyclonol Hcl); Stimulating effect, supposed to control hallucinations.

3. Suavital<sup>®</sup> and Phobex<sup>®</sup> (Benactyzine Hcl); Exact usefulness still equivocal.



4. Ritalin® (Methylpheidole Hcl); Marked stimulating effect, can precipitate severe withdrawal effects.

#### VII. Propandiol derivatives



Propandiol, Basic Structure

a. Probable site of action in Thalamus, b. Muscle relaxing, sedative qualities, c. Intoxicating and potentially habituating, d. Useful as sedatives in control of acute withdrawal symptoms—added to phenothiazines.

#### Examples:

1. Equanil® and Milltown® (Meprobamate)
2. Ultrán® (Phenaglycodal)
3. Quiactin® (Oxanamide)
4. Nostyn® (Ethylcrotonylurea)

#### VIII. Hydrozine derivatives (H<sub>2</sub>-N-N-H<sub>2</sub>)

A. Monamine Oxidase Inhibitors (MAOI), b. Gradual blocking of depression, no appetite suppression, c. Possible liver damage, watch hypotensive patients, headache and restlessness with overdosage, d. Quite useful for management of depressed patients.

#### Examples:

1. Marsilid® (Iproniazid)—proven hepatotoxic
2. Niamid®
3. Marplan®
4. Nardel® (Phenylethyl hydrozine)
5. Catron® (B phenylisopropyl hydrozine)

#### Typical Orders

##### I for Acute Withdrawal

1. B Complex (100 mg B<sub>1</sub>, 10 mg B<sub>6</sub>, etc.) B<sub>12</sub> 100 mg. and vit C 500 mg—IM daily X 3.

2. Check B. P. q 4 hrs.

3. Sparine® 50 to 100 mg. IM stat and 100 mg. p. o. q 4 hrs.; or

Thorazine® 25 to 50 mg. IM stat and 50 mg. p. o. q 4 hrs.; or

Vesperin® 20 mg. IM stat and 24 mg. p. o. q 4 hrs.

4. Atarax® 100 mg. p. o. q 4 hrs. prn.

5. Equanil® 400 mg. p. o. q 4 hrs. prn.

##### II for Impending or Actual D.T.'s

1. Mg. SO<sub>4</sub> 4cc 50% IM daily

2. Dilantin gr i55 QID

3. Frenquel® 100 mg. QID.

##### III For Maintenance

1. Chronic Anxiety—a phenothiazine derivative of the Chlorpromazine group.

2. Chronic depression—a MAOI.

This is obviously only the most superficial presentation of a complex subject. A great deal of research is needed in all aspects of the illness. But, even so, the practicing physician is in a position to offer these patients a great deal of help. Even though recovery is slow and treatment is difficult, their recovery potential is better than many chronic illnesses.

#### ACKNOWLEDGEMENTS

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### **POLIOMYELITIS VACCINE AND TONSILLECTOMY**

The question is raised whether the poliomyelitis vaccine has altered the situation regarding the practice of not performing tonsillectomies and adenoidectomies during July, August and September because of the possibility of these patients' developing poliomyelitis.

In reply it is pointed out that the Expert Committee on Poliomyelitis of the World Health Organization considered this problem and concluded that, since the vaccine has no appreciable influence on the excretion of poliovirus in the stool and since there may be no interference with the growth of the virus in the pharynx, it is advisable to discontinue such elective procedures during the poliomyelitis season. More recently eight prominent virologists expressed a similar opinion. During 1958 in the United States 322 paralytic cases of poliomyelitis and 20 deaths were reported in persons who had received three injections of vaccine. These figures support the recommendation that elective tonsillectomies or adenoidectomies, or both, be postponed during the months when the incidence of poliomyelitis is high.

### **PRESIDENT'S HEALTH PLAN**

President Eisenhower's medical care plan for the aged is based on the false premise that almost all persons over 65 need health care and cannot afford it, according to Dr. Louis M. Orr, president of the American Medical Association.

The truth is, Dr. Orr said, that a majority of our older people are capable of continuing a happy, healthy, and in many cases productive life. Of the more than fifteen million persons in the nation over 65 years of age,

## *Editorials*

only 15 percent are on old age assistance. An undetermined number, although able to finance other costs, find it difficult to withstand the additional burden of the cost of illness, he said.

It is for these people that something should be done. Neither the Forand advocates nor the Administration proposal are tailored to meet these problems, according to Dr. Orr.

The American Medical Association has developed a positive 8 point program that would meet these problems, he said.

A.M.A.'s proposed program would include the following:

1. The needy aged. These people are now receiving health care through O.A.A. programs. Here the need is for better organized medical care programs including improved preventive medical care.

2. The near-needy. This is the group that can meet ordinary costs of living but cannot pay for health care costs. The A.M.A. advocates a state administered program of federal grants-in-aid to the states for the liberalization of existing O.A.A. program so that the near-needy could be given health care without having to meet the present rigid requirements for indigency. A liberalized definition as determined locally would permit an expanded program and encompass the near-needy group.

3. Better Nursing Home Facilities. The need for better nursing home facilities for the long-term care of the aged person, especially those over the age of 75, is the most urgent health care need before the nation today. The average age of the nursing home patients is 80, and their average duration of stay is two years. It is here that major improve-



ment can be brought about. A.M.A. supports federal programs for the provision of grants through the Hill-Burton Act to provide for new nursing home additions to existing hospitals. For proprietary nursing homes the A.M.A. supports the recently enacted amendment to the federal housing act providing for government guaranteed mortgage loans to proprietary nursing homes. A.M.A. is also cooperating with the American Nursing Home Association and the American Hospital Association in an effort to bring about a rapid improvement in medical care provided in nursing homes.

4. Voluntary health insurance. Health insurance and prepayment policies tailored to meet the needs of the aged for long-term nursing home care must be developed as rapidly as possible. Health insurers and the Blue Cross-Blue Shield plans across the nation are already experimenting in this new area of coverage.

5. Home nursing care. The care of the aged patient at home is psychologically, medically and financially desirable. Many programs to promote home nursing care are being developed. Homemaker's services also provide opportunities for children caring for aged mothers and fathers to continue gainful occupation. The Homemaker program needs to be expanded.

6. Attitude toward aged. A basic change in attitude toward the aged person must be brought about. The person who reaches 65 has not suddenly become non-productive and senescent. On the contrary, most persons aged 65 are reasonably well and able to work. Increased productivity by eliminating compulsory retirement and permitting voluntary change of work is an essential part of the answer to the present problem.

7. Health education. Many older persons are unaware of the need for continuing healthful nutrition and other practices that contribute to good health. Above all the "will to live" is essential to continuing health.

Preventive medical measures instituted long before the age of 65 also can contribute

materially to the promotion of good health after age 65.

8. The purchasing power of the dollar. One of the principal problems of the aged person in the last twenty years has been the constant and continuing erosion of the purchasing power of his pension benefits. Any government program to help the aged must be anti-inflationary and maintain the purchasing power of fixed pension and annuity benefits.

Sensible, economical health care programs for the aged that preserve freedom at the same time that they promote security must necessarily be limited to support for the needy aged and leave to voluntary, competitive, private enterprise, those activities needed to improve the health care of the rest, Dr. Orr concluded.

#### PILOT'S MEDICAL EXAM

Effective June 15, 1960, the Federal Aviation Agency will require that student and private pilots be given their medical examinations by designated medical examiners. This rule reinstates a practice which was in effect from 1926 until 1945.

In announcing the re-establishment of this practice, Dr. James L. Goddard, the Civil Air Surgeon, has emphasized his previous statements that any physician may be considered eligible for designation as an examiner:

In order to have a better understanding of the proposed rule, I wish to point out that it is designed to accomplish the following needed improvements in the administration of the Agency's medical certification program.

1. To maintain a group of medical examiners who are clearly responsive to the needs of public safety in the performance of examinations and the issuance of medical certificates to airmen.
2. To permit the administration of training programs to maintain the quality of performance of medical examiners and to permit the dissemination of special instructions pertaining to the needs of civil aviation.



3. To bring into the program those physicians who have the professional qualifications and a demonstrated interest in the medical certification field.
4. This would permit the designation of any qualified physician who, by his application, has demonstrated interest in the program.

Those physicians in localities where flying activities are conducted may wish to consider filing an application for designation by writing to the Civil Air Surgeon, Federal Aviation Agency, Washington 25, D. C.

Designation as an aviation medical examiner will qualify the designee to examine both Class II (commercial) and Class III (student and private) airmen, including control tower operators. Instructions concerning the required procedures, standards, and equipment will be supplied to those who apply.

Since commercial and airline transport pilots have always been required to obtain examinations from specifically selected physicians, there are presently some 2,000 aviation medical examiners previously designated and located throughout the country. Expanding aviation activities will result in a continuing need for additional examiners. There are at present some 400,000 active civil airmen of whom approximately 240,000 are examined each year.

#### **MEDICAL CARE INSURANCE FUTURE DEPENDS ON PHYSICIANS, HOSPITALS, AND PUBLIC**

The future of voluntary medical care insurance is dependent upon joint efforts of physicians, hospitals, and the public to keep costs within reasonable limits.

This was the consensus of a panel on "Medical Service Plans" at the 8th annual meeting of The American College of Obstetricians and Gynecologists in Cincinnati. The participants represented medicine, industry, labor, and government.

The moderator was Dr. Donald C. Harrington of Stockton, Cal., president of the San Joaquin Medical Foundation. Other partici-

pants were James Brindle of Detroit, director of the social security department of the United Mine Workers; Charles E. Tosch of New York, consultant in employees benefits for the General Electric Company, and Brig. Gen. Floyd L. Wergelund of Washington, executive director of the Office for Dependents Medical Care (Medicare).

Mr. Tosch said health insurance that covers payments from the "first dollar" is unsound. He emphasized that the individual should be made aware of his responsibility in helping to develop a workable plan that will include small initial deductibles in order to restrict abuses.

Such a program at General Electric, he pointed out, has decreased the frequency of hospitalization, has held requests of patients to less expensive accommodations, and has kept the overall average cost of medical care at a reasonable level. Physicians, he said, also have co-operated by charging reasonable fees for services to those covered by the plan.

Dr. Harrington said that the medical profession in many states has or is developing "relative value schedules" which are designed to approximate what is the usual fee for a particular procedure in any area.

This, he said, will give health and welfare program trustees and insurance companies a basis on which to develop their plans. In some counties in California the schedule also is being used to set a ceiling on fees which cannot be exceeded without prior agreement with the patient, he added.

Voluntary health insurance must be made to cover a larger portion of the medical costs if it is to survive, Mr. Brindle said. He pointed out that industrial health programs, commonly regarded as fringe benefits, are in effect the allocation of part of the worker's wage to health insurance. He anticipated that a larger portion would be set aside in the future.

"Too often the worker feels that he does not receive the full benefit of his insurance dollar," he told his audience. "The medical



## EDITORIAL SECTION

profession will have to develop more service type plans."

The Medicare program of the government has been marked by an increase in the proportion of married men in the service and in larger families, Gen. Wergelund reported. The proportion of married men rose from 42 per cent in January 1956 to 52 per cent in September 1959, he said. The number of children per service family rose from 1.27 to 1.66 in the same period. There are fewer childless families.

The total cost of the Medicare program last year was \$70,000,000. Of this, \$26,800,000 went to physicians for maternity care. He predicted a further increase in the volume of medical care for dependents. He paid tribute to civilian physicians and hospitals for their co-operation in the program.

### BLUE SHIELD AND THE LONGER VIEW

Like a somewhat wayward child, Blue Shield often plays the role of favorite whipping boy for the doctors who created it. Wherever several physicians are gathered together—in staff room, committee meeting or on the second tee—someone is certain to take out after the local Blue Shield Plan.

When the definitive history of prepayment is written, perhaps one may trace a falling rate of divorce among American physicians who have worked out so many of their frustrations, not on their wives but on their Blue Shield Plans.

Some Blue Shield administrators confess to a wry satisfaction in all this—recognizing that a parent is always fussier with his own offspring than with a child for whom he has no emotional affinity.

Blue Shield is a vast community umbrella designed to ward off the rain of medical adversity which falleth alike upon the just and the unjust. It serves the need of the average man as best it may, but it sometimes falls a little short of the special needs or wishes of the individual patient and his doctor.

In these parlous times, when the Forand philosophy seems to have so thoroughly in-

fectured the politicians of both parties, American medicine has reasons more apparent than ever before to honor those medical pioneers who built Blue Shield and to support the civic and professional leaders who today are working so hard to make Blue Shield an ever more effective instrument.

None can doubt that without the reality of a strong and growing Blue Shield movement during the 1950's, America would long since have had universal compulsory health insurance. And few today would dispute the proposition that if American medicine escapes the thralldom of state medicine during the 60's, it will have the voluntary prepayment movement—chiefly Blue Shield—to thank for its good fortune.

Let's all keep a closer eye on Blue Shield—not merely to discern the moles in its eye—but to encourage it to do the best job it can do for us and for the American people.

### PHYSICIAN POPULATION INCREASES BY 4,769 IN 1959

The physician population of the United States and its possessions increased by some 4,769 in 1959, the Council on Medical Education and Hospitals of the American Medical Association reported recently.

This was an increase of 660 over the gain reported in the previous year, according to the council's report.

The increase of 4,769 results from the licensing of 8,269 new physicians minus approximately 3,500 physicians who died.

Of the 8,269 new physicians, 1,626 were foreign-trained.

The largest number of first licenses issued was 1,121 by New York. Three other states issued more than 500 first licenses—California 676, Illinois 521, and Pennsylvania 530.

The most notable increases, compared with 1958, were in Alabama, Connecticut, Illinois, New Jersey, Puerto Rico, South Carolina, and Tennessee. There was no marked decrease evident in any state.



## EDITORIAL SECTION

The over-all total of licenses to practice medicine and surgery issued in 1959 was 15,954. This figure represented 7,720 granted after a successful written examination and 8,234 granted by reciprocity and endorsement of state licenses or the certificate of the National Board of Medical Examiners. This was an increase of 714 over 1958.

### LUNG CANCER, HEART DISEASE LINKED WITH CIGARETTE SMOKING

Cigarette smoking, which has greatly increased in this country over the past few decades, is a "form of suicide, just as much so as shooting oneself," according to Dr. Alton Ochsner, professor of surgery, Tulane University School of Medicine (New Orleans), in an article in a recent issue of the *Journal of the American Geriatrics Society*.

Dr. Ochsner cites excessive smoking as a major culprit in the development of carcinoma of the lung which, he states, has become the most frequent of all cancers.

In 1920, cancer of the lung represented 1.1 per cent of all cancers in the United States; in 1930, 2.2 per cent; in 1956, 10 per cent, he says.

Dr. Ochsner predicts that in 1976, unless something is done to prevent it, it will represent 30 per cent or more, that is, 1 out of every 3 cancers.

Dr. Ochsner also emphasizes the role of excessive smoking in the development of coronary disease. Noting that cancer of the lung is the only cancer which does not increase with advancing years, he gives as the reason the fact that heavy smokers have developed coronary thrombosis, and, as a result, have not lived long enough to be afflicted with cancer of the lung.

Dr. Ochsner reports on a six-year study by the American Cancer Society involving 22,000 men between the ages of 50 and 70. The study showed that the over-all death rate among cigarette smokers was 105 per cent higher than among non-smokers. The death rate from heart disease was 115 per cent higher, and the death rate from cancer of the lung was 800 per cent higher!

The study revealed that we have become a nation of heavy users of tobacco, Dr. Ochsner says. In the 65 and over age group, 20 per cent of the men had smoked a pack or more of cigarettes a day, whereas 21.6 per cent had never smoked. In the 50 to 54 year age group only 15 per cent had never smoked, whereas 43 per cent had smoked a pack or more a day.

Dr. Ochsner further notes that a recent poll among teenagers showed that among those aged 13 to 15 years inclusive, 37 per cent smoked, and among those aged 16 to 19 inclusive, 67 per cent smoked.

The Cancer Society study also showed a relationship between the amount smoked and the death rate. Whereas the death rate per 100,000 for the person who smoked half a pack a day was 51.4, it was 217 for over two packs.

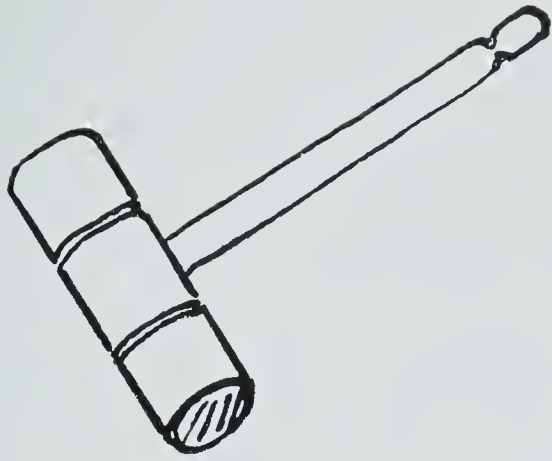
Extensive studies in other countries also point to a causal relationship between smoking and lung cancer, Dr. Ochsner reveals. Moreover, such studies are documented by clinical evidence.

Pathological examination of the tracheo-bronchial tree of men at necropsy at Tulane University showed that among men of 55 (the peak age for bronchogenic carcinoma), the bronchial mucosa were normal in those who had never smoked; the mucous membranes of moderate smokers showed an increase in cells; and those of heavy smokers showed pre-cancerous lesions.

In another study, a tar residue, obtained from smoke collected by a robot smoking machine, was added to a solvent, and applied to the skin of animals regularly over a period of time. The solvent alone was applied to the skin of a second group of control animals.

At the end of two years in the first group, 44 per cent of the animals had died from a metastasizing true cancer which had developed at the site of application of the tar, Dr. Ochsner states. In not one animal of the control group did either a benign or malignant tumor develop at the end of two years.





# President's Page

## Will It Work?

I am borrowing the above heading from a recent editorial in the Birmingham Post. This editorial discussed Forand-type legislation and also that plan being considered by the Administration at the moment. It brings up the question of inflation and says, "The main reason many of our older citizens need help with medical bills is . . . inflation. Or is it just something to show good intentions and snag a few votes?"

Recently, I heard a Congressman state in a speech that this subject was a political football. It would not be considered except that this is an election year. Socialized medicine is being pushed by organized labor, the A.D.A., and a few others. Organized labor has a selfish interest—getting the aged out of the labor market and off their rolls.

This same Representative, a friend of medicine, advised that we organize. "For," he said, "politicians only heed the voice of qualified voters, more closely listen to organized groups."

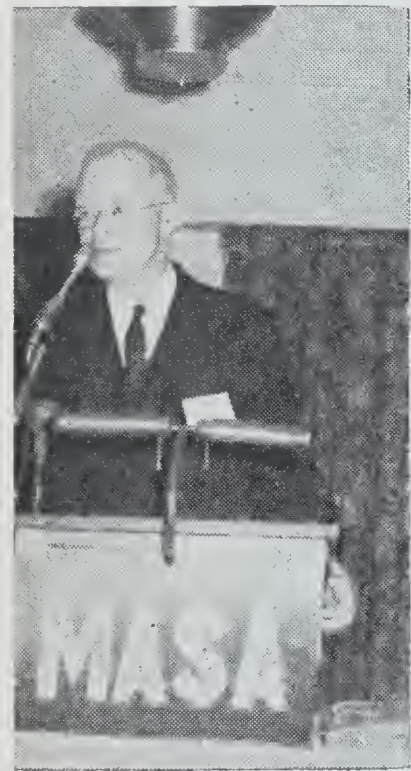
The medical profession must become a better, more rounded citizenship. We must have more interest in our own Association. We must take an active interest in our schools, churches, and in our local politics. In this way, we can better help to mold public opinion.

With the millions of people seen in our offices daily across this great country, we have the opportunity for a "grass roots" campaign on any medical issue which should not fail.

*Hugh Gray*



# HIGHLIGHTS OF THE ANNUAL SESSION



Dr. Joe Vincent, Harvard professor of gynecology, presided over the 62nd annual session in Mo-

Elected to serve as officers and board members of the Association for the coming year are (left to right) Drs. J. G. Daves and John M. Chenault, Board of Censors; John W. Simpson, president-elect; Hugh E. Gray, president; and William L. Smith, secretary-treasurer.



Dr. Douglas L. Cannon (right) was given an honorarium upon his retirement as secretary-treasurer of the Association after 37 years. Making the presentation is Dr. Grady O. Segrest, former president of the Association.

The third annual William Crawford Gorgas Award was presented to Attorney Paul Johnston (below right) by Dr. J. Michaelson for his outstanding work in the mental health field.



Miss Julia Holley, Birmingham News staff writer, was awarded the Association's first annual Medical Reporter Award for her accurate and factual reporting. A duplicate award was given the Birmingham News. Left to right, Dr. W. R. Carter, retiring president; Miss Holley; Fred Taylor, city editor of The News, and Dr. J. D. Bush, member of the public relations





Nine of the eighteen members of this year's Fifty Year Club were in Mobile to receive their certificates of distinction. They were: front row, from left, Drs. Mayer A. Newhauser, Joseph H. Durrett, Gilbert F. Douglas, Harris P. Dawson, Sidney D. Armistead. Back row, Drs. Marion L. Shaddix, Richard V. Taylor, Jr., James Williams and Woodie R. Taylor.



Miss Sally Jordan, winner of this year's essay contest, is shown receiving a hundred dollar check from Dr. John M. Chenault. Miss Jordan read her prize-winning essay to the membership.

Dr. E. V. Caldwell (seated), who has served as chairman of the Board of Censors of the Association for 26 years, received tribute from fellow members of the Board upon his retirement.



Representatives of various state organizations were honored as fraternal delegates during the meeting.















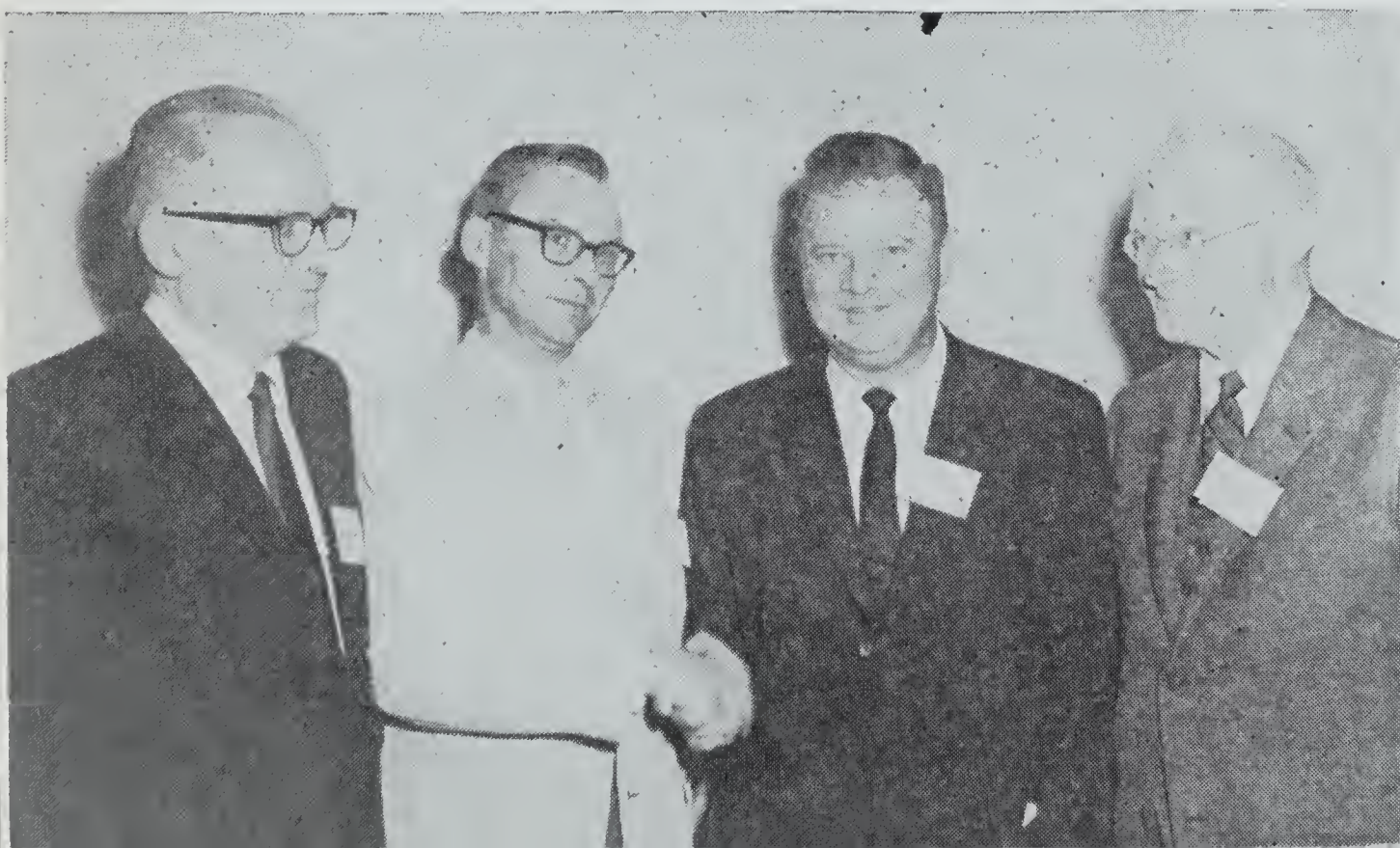
# around the state



**RADIOLOGISTS**—At the annual session in Mobile elected Dr. Neal S. Flowers (right) of Mobile as president of the Alabama Radiological Society. Shown with Dr. Flowers is Dr. David Carroll, professor of radiology at the University of Tennessee.

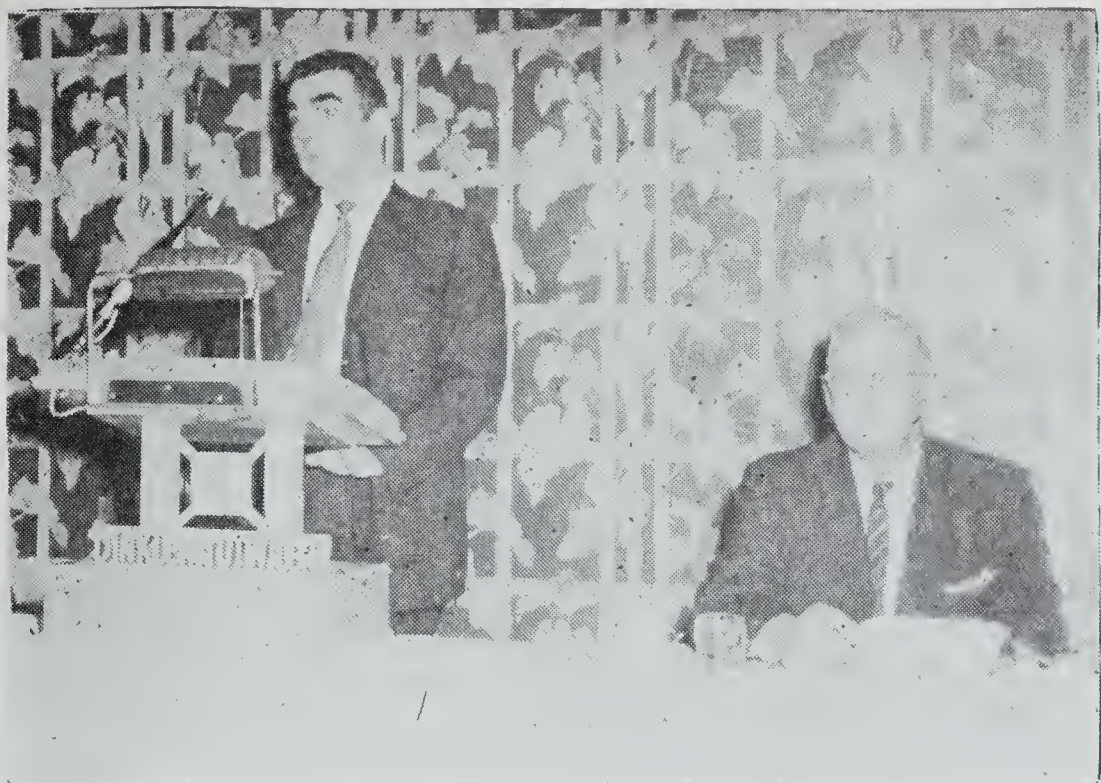


**OB-GYN'S**—Dr. James H. French (second from left) is shown being congratulated upon being elected president of the Alabama Association of Obstetricians and Gynecologists by Dr. O. M. Otts, Jr., retiring president. Pictured (below, left to right) with Dr. French are Dr. Dan Beacham of New Orleans and Dr. Joe V. Meigs of Boston.



**CHEST PHYSICIANS**—New officers of the Alabama Chapter of the American College of Chest Physicians are Dr. Joe Little (above right), president; Dr. Norman Van Wezel (left), vice president; Dr. Charles Kessler (not shown), secretary-treasurer.





GP'S—Dr. Rex A. Pittenger (left), chief psychiatrist of Staunton Clinic of Pittsburgh, spoke at the Alabama Academy of General Practice mental health seminar in Birmingham on May 12. He is shown above with Dr. Winston A. Edwards, president of the Alabama Academy.

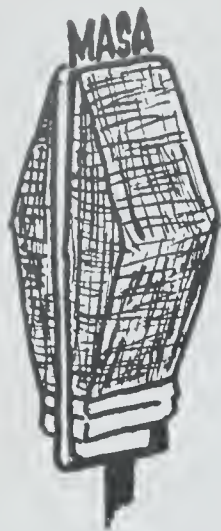


INTERNISTS—Speakers at the scientific meeting of the Alabama Society of Internal Medicine in Mobile during the Annual Session are shown above with officers of the Society. They are: (left to right) Dr. W. H. Tucker, past president; Dr. Patrick A. Ongley, Mayo Clinic; Dr. J. O. Finney, president elect; Dr. Robert B. Greenblatt, Medical College of Georgia; Dr. Joe Reeves, Medical College of Alabama, and Dr. H. Hamilton Hutchinson, president.

CLASS OF 1910—Six of the ten surviving members of the Medical College of Alabama and the Birmingham Medical College graduating class of 1910 gathered during the annual meeting in Mobile. Shown below at the reunion are: (left to right) Drs. R. C. Williams, Atlanta; M. L. Shaddix, Gadsden; G. F. Douglas, Sr., Birmingham; J. H. Durrett, Tuscaloosa; S. D. Armistead, Robertsedale, and S. S. Gaillard, Frisco City.







## ASSOCIATION FORUM

### State Health Department Problems

*Lack of funds and legislation causes serious problems in the field of hospital service for the indigent, nursing home, cancer, tuberculosis, and food inspection.*

Some of the major problems of the State Health Department were presented to the Alabama Legislative Council recently by Dr. D. G. Gill, State Health Officer.

One of the big problems today is the lack of laboratory facilities, Dr. Gill told the group.

The State Health Department has a central and eight branch laboratories to serve the state. Diagnostic procedures for practicing physicians occupy much of the time of the staff, but in addition purely public health procedures such as water analysis and milk examinations are routinely run. Thousands of specimens to comply with the pre-marital blood test law are examined, and the tuberculosis sanatoria send in additional thousands of sputa for testing. The pre-marital blood test law should be repealed, according to Dr. Gill. The laboratory system, he continued, examines some half million specimens a year and at a cost that is almost unbelievably low.

New problems are constantly arising, and the laboratory system must be prepared to meet them, he said. Virus diseases are becoming more and more prevalent, and our laboratories are the only ones available to

meet the demand. The examination of milk for added penicillin had to be undertaken, although we had no funds for such an undertaking. Provision of diagnostic testing for cancer is an urgent need, and the chronic diseases are bringing on new demands.

The provision of biologics, such as typhoid vaccine, rabies vaccine, silver nitrate and the agents such as diphtheria toxoid, whooping cough and tetanus toxoids, as well as the distribution of poliomyelitis vaccine are laboratory responsibilities.

Limited funds will require the discontinuing of some of the present activities and prevent the taking on of new and needed programs. It is poor business to hamstring a service program of this type and stifle research which should be going on.

#### **Hospital Service For The Indigent**

The Hospital Service for the indigent program, now in its third year of operation, served 570 patients the first year and 1,020 the second year, utilizing a state appropriation of \$100,000 with additional county matching funds at an average of \$178.00 per patient. The present state appropriation of \$250,000 per annum will permit payment of



hospital bills for approximately 2,150 patients in 61 of the 67 counties participating.

Experience from this program shows that a state appropriation of \$750,000 per annum, three times the present amount, would be more realistic. At the same time, consideration should be given to limiting the maximum amount of money available to a county on a non-matching basis to not more than \$1,500 which would enable the smaller and poorer counties to participate on a limited scale and yet sufficient to encourage the raising of local funds to match the state appropriation for any additional services.

As of March 1, 1959, the State Department of Pensions and Security discontinued its program of hospitalization for welfare recipients. Except for tuberculosis and cancer hospitalization programs, the hospital service for the indigent program will be solely responsible for the financing of hospital care for the indigent and the medically indigent in the state of Alabama which presently records approximately a quarter of a million Alabamians 65 years of age and over, with over 100,000 persons in this group alone who are receiving old age assistance and are unable to pay for hospital care. There are many others able to care for their personal needs at present but would not be able to meet hospital costs should they arise. A recent survey in Alabama of this age group showed that one person in five was hospitalized in 1959, and one in three of those entering required surgery. The physicians will contribute their professional care if the public will provide money for hospitalization.

#### **Nursing Home**

With an aging population of 7.5 per cent over 65 years of age, increasing disability, and the accumulation of chronic diseases with age, there is an urgent demand for adequate nursing and convalescent care services for a population with modest financial means facing rising medical costs and an increased cost of living along with devaluation of the dollar. The existing 80 licensed nursing homes provide only one-third the estimated needed beds. Two additional hospital inspec-

tors are needed immediately to offer necessary advice and safety inspections since each home should have at least four visits a year. Existing homes are making changes and many new facilities are under construction or in the planning stage.

At the present, two hospital inspectors are attempting to serve 245 hospitals, nursing homes and related facilities. This present staff has been able to complete only 248 inspections in 1959 when it is estimated that 678 should have been made for an effective licensure program. To continue the present inspection program after this year with a total of four inspectors will require an increase in revenue of \$25,000 in addition to the \$9,000 expected from license fees.

#### **Cancer**

There are six cancer clinics in the state for the care of indigent cancer patients. Each of these is staffed by physicians who donate their services; and all the costs of the program are for hospitalization, radiation, or x-ray.

At the present time the average cost of hospitalization of an early cancer case in good physical condition is \$200. There are \$140,000 appropriated each year for this service. This means that if only the early cases in good physical condition are hospitalized, a maximum of 700 could be taken care of. If any late cases are hospitalized, or complicated operative procedures are done, then the cost can and may exceed \$1,000 a case. If only one-fourth of the 6,778 reported in 1959 were medically indigent, a minimum hospitalization cost would be \$340,000 without allowing for any clinic or out-patient treatment program cost.

#### **Tuberculosis**

The major proportion of the tuberculosis control appropriations is used for sanatorium hospitalization of patients. A very small proportion is used for case studies. In order to bring this disease under control, more funds should be appropriated for case-finding in order to keep the discovery of patients and the hospitalization program in balance. By



the changes being made in tuberculosis discovery methods there should come a time when cases cannot be discovered fast enough to keep all beds full.

Almost all patients, after being discharged from a sanatorium, need continuing supervision and drug treatment. In addition, there are many intimate contacts who could be prevented from developing tuberculosis if prophylactic drug therapy could be instituted.

### **Food Inspection**

The continued inability to provide adequate inspection service has resulted in the development of an acute and serious situation in the state of Alabama. Although the milk control program is operating in a fairly satisfactory manner, it is not free of routine service or emergencies such as the recent investigation and testing for the presence of antibiotics in milk. Red meat slaughter houses and poultry processing facilities continue to operate with many irregularities and no assurance that the products therefrom are of a wholesome nature. Tourists make constant inquiries and complaints regarding the sanitary condition of transient accommodations, and even deaths have been reported in some instances. Shellfish and crabmeat industry continues to experience a limited market. Many foods, confections, and beverages are prepared, sold, and consumed that have not been inspected and submitted for laboratory examination. Surely, our health department has no greater delegated responsibilities than those connected with sanitary quality of the food that is essential for our very survival.

### **Radiological Health**

An urgent need in Alabama is in the field of radiation and its effects on the population. The department does attempt, in conjunction with the Atomic Energy Commission, to supervise all industrial and medical uses of radioactive material. Nothing is being done, however, to check and supervise x-ray installations and their potential dangers. Should

a reactor plant ever be established in Alabama the problem of worker protection and the handling of waste products would demand supervision. Alabama cannot afford to be unprepared and needs to control existing hazards.

### **Chronic Disease Program**

In the past fifty years, the population over 65 in Alabama has increased 375 per cent; and the life expectancy has been increased some 25 years. The major causes of death have shifted from the acute communicable diseases to that of chronic diseases with heart and blood vessel diseases accounting for two-thirds of the deaths of older persons. Cancer is in second place, accounting for one death in every nine.

For the past two years, the State Health Department has used a grant of federal funds to meet the rising problem of chronic disease in aging. With limited funds on a year to year basis, this program has been limited to an evaluation of the needs in the field of chronic disease and the health of the aged and a consultation service to nursing homes in chronic disease nursing and nutrition, since these homes were crowded, poorly financed, and requesting assistance in ways to improve patient care. This limited program is entirely dependent upon federal funds and must be discontinued if these funds expire. A year was required to recruit suitable personnel for this program.

Home accidents comprise a major cause of death, particularly for the aged. Although this is a direct responsibility of the health department, funds have not been available for a preventive program in this field.

Training of personnel in chronic disease prevention, including public health nurses needed to provide home care and instruction, can be made possible by a state appropriation which will permit the State Health Department to fulfill its responsibility by providing services for an aging population by changing from traditional public health programs to meet new needs.



Financing Of County Health Departments

The table below gives the amount of state funds provided by six southeastern states to county health departments for the fiscal year 1959-60. The percentage of state funds in the total county health department budgets is also listed:

State	State Allotments to County Health Departments	Percentage of State Funds to Total Budget
Alabama .....	\$ 388,761.00	12.0 %
Tennessee .....	884,033.00	25.0 %
Mississippi .....	645,216.00	26.0 %
Georgia .....	1,798,894.00	26.4 %
Florida .....	1,972,062.00	29.2 %
South Carolina.....	1,097,139.00	45.6 %

The employment of qualified physicians as health officers has become increasingly difficult. During recent years only those with supplementary incomes, such as retired service physicians, can be employed.

Thirty health officers, four of whom have passed the retirement age of 70 years, are now employed, serving 59 counties in from one to four-county units. Eight counties have health officer vacancies.

Twenty-eight county health departments have only one public health nurse, and 26 have two nurses to serve 54 of the 67 counties. New programs, such as cancer, heart, and the home visiting of furloughed mental cases, have produced constantly increasing demands on the nurses' time. A critical shortage of nurses has resulted.

Due to low entrance salaries, the best qualified nursing and sanitation officer personnel cannot be employed. Alabama is one of the few remaining states that still employ persons who are not college graduates as sanitation officers.

PRIZE WINNING ESSAY

Medicine As A Career

*Sally Jordan*

Miss Jordan, winner of this year's essay contest, is an 11th grade student at Carbon Hill High School. She was presented a check for \$100.00 at the Annual Session last month when she read her paper to the membership.

We, the young people of America, hold in our hands the destiny of our country. What we do with our lives will leave a mark on the lives of our children and many generations which will follow. It is then our responsibility to choose with great care the roads into the future that we intend to take.

Both young men and women now have their choices of many alluring vocations. To those who are mentally, emotionally, and physically fit, and who have a real desire for this, medicine as a career can be most rewarding and fulfilling.



Let us consider one of the most important positions in our society today—that of the doctor. Unless a young man or woman truly wants to be a doctor, you cannot expect him to persevere through the long, arduous, exacting years of training. The desire to be a doctor is only a first requirement. The other requisites are qualities that will be easily recognized early. In considering medicine as your career, these questions should be asked:

Are you studious? Medicine is probably the hardest of all professions to really learn well. If you are a good physician, your studying days are never over.

Do you make high marks in school? Medical schools will not accept anyone with a low scholastic record.

Are you interested in science? Without scientific interest, it is impossible for a person to be either successful or happy in medicine.

Finally, can your parents give you the financial help you will surely need? This is a sacrifice they must make. It is a considerable one to the average father and mother. Three years in pre-medical college, four years in medical school, two years as an intern and resident, and perhaps three years in a big clinic learning a specialty—twelve long years in all—will cost the family some \$15,000. Then, too, a young doctor beginning in practice may need another \$5,000 to fit his office and tide him over before he can make a decent living.

Some of the subtler qualities to consider, but just as important, are courage, good judgement, leadership, the ability to influence people for their own good, calmness in the presence of danger, patience, optimism, and equanimity.

For many reasons you should have idealism and honesty, but especially so that people will believe you and believe in you. Above all, you should like people. It would be well if you have a strong, robust body, because medicine can be the most exacting of jobs. For months at a time, it may keep you on call day and night.

There are many opportunities and rewards in medicine. It is varied enough to accommodate many types of personality. With a degree in medicine a person can always be reasonably assured of work. A graduate doctor can become a general practitioner, a specialist, an employee of a large company or of the government, a teacher, a laboratory worker, or a researcher.

Today, a serious shortage of doctors confronts the nation. With the population increasing so rapidly, and the number of young people who are accepting this challenge levelling off, the shortage will become more and more severe. Many physicians, too, are entering specialized fields of medicine, with the result that the traditional family physician is getting scarcer each year. So, there is no doubt that the field is "wide open."

There are many other branches of medicine that are beckoning to today's youth, also. The need for more nurses, medical technologists, and technicians, is increasing at an astounding rate.

In closing, I would like to say that I have come to this conclusion: There is no finer profession a young person can enter. It offers a wonderful opportunity to be helpful to others and to do a great service to humanity. It is a work which gives much soul-filling and lifelong satisfaction. It offers the feeling of accomplishment that nothing else can.

Young people of America, will you join me in seriously considering medicine as a career?



## Why Settle For Second Best?

*Marc Woodward*

It is a real privilege for me to appear before an audience composed of pharmacists and doctors and to be able to present to you some of my ideas about the current controversy surrounding your problems concerned with medicines and people and the cost and values of medication.

Appearing before a select professional audience, I believe it is in order to tell you something about what I represent. I don't want to misrepresent myself, and I do want to tell you something about the Health News Institute.

The HNI was organized by a group of thoughtful men in 1956 when the challenging problem of public criticism against the health team came into focus. The HNI represents the pharmaceutical industry—not just the manufacturers, but the wholesalers, the retail pharmacists, and the representatives of the profession of pharmacy, to create a better public understanding of the achievements of the health team as a whole.

During the four years of our existence we have worked closely not only with pharmacy and the pharmaceutical industry but also with the American Medical Association, the American Hospital Association and the various groups of medical specialists, as well as with a number of voluntary health agencies and government agencies. It has been our job to try to effect a balance of objective and factual information in the lay press and other media, and to serve as a coordinator of public relations activities as a sort of liaison among the many elements of the health team itself.

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This speech was delivered by Marc Woodward, Executive Director of Health News Institute, at the ninth annual joint meeting of the Medical Society of the County of Erie, N. Y., and the Erie County Pharmaceutical Association in Buffalo on March 22, 1960.

One of the principal tasks we have been faced with is the continuing criticism—seldom justified—of the costs of medical care . . . and particularly the cost of medication.

Another important task we have had is trying to stem the general criticism of the elements of the health team.

It is understandable that the retail pharmacist is reluctant to listen to criticism of the physicians in his area, whom he serves.

It is equally understandable that the doctor neither has the time nor the inclination to listen to gripes from his patients about the cost of the medicines he knows are suitable for their ailments, and thus prescribes.

These are the two professional men who come into direct contact with the patient who lays out the money to restore the health which he considers his God-given right in the first place. To compound the issue, the patient is usually not at his peak form when he is seen by either of these men. He is also seen under the shadow or burden of an emotional situation with a built-in sales resistance to the purchase of medications.

There are two elements of our professional team who do not generally come in contact with the patient. They are the hospital pharmacist and the manufacturer. This, however, does not relieve them of their share of criticism. Nor does it relieve them of responsibility for the patient's welfare.

In the army we always used to put the blame on some distant, collective, nebulous ogre whom we referred to as "THEY". No man in military service, or out, even the veterans of today who reminisce, will ever be able to forgive that authoritarian "THEY" in his service background.



What most service men never realized was that "THEY" was a massive complex of planning, logistics, strategy, intelligence, tactics, and highly trained people stretching from Washington to Berlin on the one side and New Guinea on the other, all of which was concerned with his welfare and survival.

What today's patient and some elements of the press and others fail to take into consideration when they criticize is that behind our present high standards of health, our increased life span, decreased mortality rates, relief from pain, and the truly lower costs of health, is another vast organization. The interdependence of the medical profession, the profession of pharmacy, the manufacturers of pharmaceuticals, hospitals, and government and academic research laboratories is a pretty complicated structure, involving many of the same elements as I have cited above, and with the same concern for health, welfare and survival.

My point is that in spite of the criticism by the troops, the war was won.

In spite of the criticism of health costs and practices today, I believe that the health structure of the United States is winning the war against disease faster and better than anywhere else in the world.

And I believe that the reasons for this are: the increasing skills and knowledge of the physician, the expanding awareness of the pharmacist, the greater knowledge of the causes of disease found by the researcher, and the discovery and introduction of many new medicines which no longer merely palliate disease but cure, or lead to cures.

Thus, I am most pleased that you have asked me here tonight to discuss some of these problems with you.

I must confess myself guilty of some confusion concerning the recent spate of statements by a number of Senators, Governors, public welfare officials, even physicians and pharmacists, about the so-called advantages of prescribing by generic rather than brand name.

There are few products that you here in the audience would buy unless you were sure of the reputation of the manufacturer. Yet, at the same time, those who urge generic name prescribing seem willing to take a chance, possibly with the life of a patient, by prescribing a medicine made by a company about which they know little or nothing.

Let us take a look at what prescribing by generic name means by taking analogies from other commodities. In terms of food, would you or your families buy unlabeled cans of soup or fruit or vegetables? I doubt it. So why, then, should you want your patients or customers to purchase medication that does not have the integrity of a reputable firm behind it?

Another analogy. Let's say you want to buy a recording of Beethoven's Ninth Symphony. Would you go to your record store and buy the cheapest repressing? Or would you buy a recording with good fidelity, by your favorite conductor, chorus and orchestra?

Yet, once again, although you personally would purchase the recording you believe to be best, there are some who would relegate the patient to second best medicine.

Of course, some may think that generic name medicines are the equivalent of brand name products. In certain cases this is probably true. Yet, in too many cases generic medicines are tragically inferior to products with a reputable manufacturer's name behind them.

Writing in "The Prescriptionist", Dr. Edward S. Brady of the University of Southern California reports on an analysis of four brands of 10 mg. amphetamine sulfate tablets.

"Apparently," he states, "two manufacturers took advantage of the usual 10 per cent variation allowed by the FDA in compressed tablets and formulated their products to barely meet the minimum 90 per cent requirement."

A third manufacturer's product was found to have 119 per cent of the stated 10 mg. dose. Only one of the four came close to the 10 mg.



of amphetamine sulfate with 102.5 per cent. I scarcely need mention the name of that company. As Dr. Brady puts it, the company "is the best known manufacturer of amphetamine."

All of these samples came from open pharmacy stocks and all were used to fill prescriptions. As Dr. Brady also points out, the FDA permits an allowable variation in penicillin products of 20 per cent of stated dosage. "How many low price preparations," he asks, "must contain only slightly more than 80,000 units per 100,000 unit dose form?"

The problem of variation in disintegration time also arises in the case of low cost prescription products. Dr. Brady points out just a few of the more horrifying examples. In a U.S.P. test for the disintegration time of tablets, one sample did not dissolve after 24 hours' agitation in both water and artificial gastric fluid. A few took as long as eight hours to disintegrate, and several resisted up to four hours immersion in the liquids. I wonder how you physicians who prescribe amphetamine in a late afternoon dose to suppress the appetite through dinner would feel if you found that the tablet was not effective until sometime in the middle of the night.

Dr. Brady points out that enteric coated tablets, which should resist gastric fluid for about 3½ hours, had disintegration times ranging from 35 to 70 minutes, while still another enteric coated tablet resisted agitation in artificial gastric fluid for 24 hours. These are some of the dangers of prescribing generic products without the reputation of a leading company behind them.

Dispensing these products also leads to problems for the pharmacist. As Dr. Brady points out, "some of the bargain compounders make a habit of short count in their larger packages. In one notorious California case, few of the original bottles of 1000 contained this number, and by actual count, one bottle with the seal unbroken, contained only 850 tablets. In nearly all merchandise of this type, large numbers of broken tablets are observed. The pharmacist should consider how his savings on the purchase of substandard

material can dwindle if some of the 100 tablets were never put in the bottle, and a considerable number of the others are broken."

These problems come about because of one factor in manufacturing: Quality Control. Quality control is an important cost factor in the manufacture of medicine. Like the air we breathe, quality control is only apparent when it is lacking. A quality control laboratory is expensive to staff and maintain. As a result, it is the place where a cut-rate fabricator with low price as his only selling point reduces his costs, and thus his quality.

Those in favor of prescribing by generic names may say: "This is so, but the Food and Drug Administration eventually catches up with these fly-by-nighters." This is only partially so. It should be remembered that the FDA only has jurisdiction when the products move in interstate commerce. Most generic name producers operate only in a locality. In some cases only in one city or county.

That there are legitimate generic name concerns is, of course, true. But even in these cases, most of the generic name manufacturers produce only the most popular dosage forms, leaving it to the large manufacturers to produce medication in the lesser used forms.

For instance, in the case of prednisolone, the Drug Topics Red Book lists 46 generic name sellers. Three offer only powder or crystals for compounding. One offers tablets and a cream. The other 42 offer only tablets. The two largest brand name producers, on the other hand, provide a wide range of different dosage forms, including tablets, injectibles, sterile powder, eye medications, nasal sprays, and creams. It would certainly seem that the generic name producers are more concerned with reaping their profits from the widest prescribed dosage form, rather than meeting the needs of patients and physicians.

Under these circumstances, would you as physicians be content to have only one dosage form available? In many cases these



*slightly* used dosage forms are produced by members of the pharmaceutical industry as a convenience for treatment, rather than as a profit making product. Would it be to their advantage to continue making these slow moving dosage forms if the fast moving forms with a profit potential were left to the generic houses?

And if such dosage forms were discontinued by brand name manufacturers for economic reasons, where would it leave the patient suffering from a disease that required topical or parenteral treatment?

Not only do the generic name marketers not make all dosage forms, there are also wide gaps in their market areas. A sampling of more than 6 per cent of retail stores in three states found the following facts concerning the availability of prednisone and prednisolone:

In New Jersey, while 88 per cent of stores carried one well known brand and 99 per cent carried another well known brand, only 7.1 per cent carried the product of generic manufacturer "X".

In Tennessee 80 per cent of stores carried Brand A, 85 per cent Brand B, and none generic X.

In California, 93 per cent carried Brand A, 98 per cent Brand B, and only 3.3 per cent generic X.

As Edmund R. Beckwith, president of Crookes-Barnes Laboratories, points out, "No matter what the supposed price, the most expensive drug is not the one you buy, but the one you can't get when you need it."

Perhaps the most vital argument from the public's standpoint against the use of generic named drugs can be summed up in Mr. Beckwith's question: "Where will tomorrow's medications come from?"

They obviously will not come from the marketers of already developed products, the generic name producers. And if physicians begin to prescribe by generic name, they may also not be forthcoming from the brand name marketers either.

As the Academy of General Practice said in 1954:

"If a pharmaceutical manufacturer could not protect his right to a trade name and thus recover the costs of research, development, and promotion, the industry's contribution to medical progress would be seriously curtailed."

In order that there be no doubt about the Academy's stand on this important question, the Board of Directors adopted the following resolution:

"The Board of Directors of the American Academy recognizes that research in pharmacology, development of new drugs, and promotion of new forms of treatment by the ethical pharmaceutical manufacturers of America has been of vast assistance to the medical profession in its traditional endeavors to render the highest quality of medical service at the lowest reasonable cost. The Academy recognizes that the adoption of trade names and the legal protection thereof is an essential part of the system of free enterprise under which American medicine and American drug manufacturers have achieved the finest quality and the best system of medical care in any part of the world. Any action to discourage the use of trade names in prescription writing would tend to interfere with the growth and advancement of pharmaceutical research and progress in medical treatment."

As you have heard many times, research costs money. And I will not bore you with the facts and figures on pharmaceutical research, except to state that in 1959 it amounted to \$194,000,000. Of course, this money came from the users of drug products. But in return they received the advantages of new and better medicines every year.

The generic name marketers, on the other hand, take less from the consumer, but also give less in return. It should not be overlooked that no advocate of the generic name process has been the originator of any important drug in the past ten years.



Even at their cut prices, the generic name duplicator is rarely doing the public a favor. As Mr. Beckwith points out, there are three stages during which a new drug can be placed on the market:

The first is the research and clinical testing stage, culminating in clearance from the Food and Drug Administration and first marketing.

The second is the period of varying length during which the FDA considers the drug "new" and requires a new drug application from each manufacturer.

The third stage is following FDA decision that the drug is no longer new and requires no application.

We have already demonstrated that the generic name marketer does not and does not want to get involved in the first stage. The second stage, however, still requires the collection of clinical data including a staff to assemble and prepare the new drug application. Unless the generic name seller goes to these costs (and he usually won't) he could not possibly sell the product until the third stage. By then the risk involved is about as great as it was in bringing out a hula hoop in the Spring of 1958. The physician has had years, up to five, to learn how to use and to become accustomed to the drug. The danger of returns of merchandise has been virtually eliminated. *And the most used form has already been determined.*

Let's take the case of prednisolone, where we have already determined that, except for a few rare exceptions, only the most used form, the tablet, is being marketed by the generic name seller.

This hormone was introduced in the spring of 1956 by two of our largest ethical drug houses. By mid-1957, it had reached stage 3, where no new drug application was necessary. It was not until after this point was reached that it was introduced by generic name marketers.

At this point, remember, the product had widespread acceptance, and the most popular

dosage form, the tablet, had already been established. The interesting thing in this connection is that while the company that had developed prednisolone and a second company which had almost simultaneously introduced a new drug application for prednisolone on a cross-license were charging \$17.90 for a bottle of 100 5 mg. tablets, the generic name sellers were charging \$12.50 to \$14.86. Today, these generic name marketers charge from \$5.00 to \$12.50 for that same product. Since they had no costs of research, promotion, or new drug applications to recoup, one might be pardoned for some curiosity about the motives behind the higher earlier price. If \$5.00 can be profitable why charge \$14.86?

There does seem to be some possibility that the seller of imitations may start with the highest price he can get and only after resistance builds up will he lower it.

So far, I have dealt primarily with the disadvantages of prescribing by generic name for the patient. But there are a number of problems which such prescribing bring up for both the physician and the pharmacist.

The first of these is general unfamiliarity with generic names. Prenisone, prednisolone, reserpine, amphetamine are relatively simple.

But what about such generic names as pentaerythritol tetranitrate, chlorprophenpyridamine maleate, methaminodiazepoxide, and others? How many generic names is the average physician or pharmacist aware of, apart from some of the most widely prescribed drugs? And then, of course, there is the great danger of confusion of prescriptions. Think of the dangers of prescribing aminophyllin and having it misread as aminopyrine! Prescribing mercaptomerin and receiving mercaptopurin! Phenindamine as phenindione! Or even phenobarbital instead of pentobarbital!

This problem could possibly be solved. But not, I am afraid, for a good long time. For, whether you approve or disapprove, most physicians and pharmacists today tend to think in terms of brand names of drugs rath-



er than their generic titles. Many of you may place the responsibility for this on promotion by pharmaceutical manufacturers, and you are right. However, think of the chaotic situation which would exist if generic name prescribing became an established fact. The emphasis in advertising would shift from the physician to the pharmacist and patient, neither of whom is as well able to evaluate the advertising in terms of illness of the patient as the physician.

Would you as physicians be content to have a patient walk into a pharmacy with a prescription for, let's say, cortisone and say to the pharmacist, "Just the other day I got a notice from the Jones Company that they're having a sale on cortisone, so fill it with that?"

I doubt whether any of you, pharmacist or physician, would be happy with this practice. Yet, it is the obvious end result of a switch to generic name prescribing under our existing economic structure. And, interestingly enough, it would change little. For the large company with greater assets and finances would have a greater advantage than it may have now over the smaller firm.

Which, I believe, brings me to the heart of the argument against prescribing by generic name. And the heart of the argument is summed up in the word "responsibility".

Over the years, the physician-pharmacist-patient relationship in this country has been built up to the point that each controls a carefully zoned area of responsibility. The patient's responsibility is to report his symptoms and to follow the regimen prescribed by the physician; the physician's is to diagnose the problem and to prescribe the proper treatment, and the pharmacist's is to use his skill and knowledge to fill the prescription exactly as the physician has written it.

Prescribing by generic name would completely disrupt this relationship. It would take the burden of responsibility from the physician and thrust it upon the pharmacist, and would also bring the patient into the decision-making process. It would no longer

be the physician who decides what the medication should be, but the pharmacist.

And, as we have pointed out, all drugs are not alike. When the physician prescribes a brand name product, he does it because of his knowledge of how that product has worked on other patients. And he knows that each tablet, each bottle of liquid, is exactly the same as the next. This he knows because of the system of quality controls which this particular manufacturer has established. He does not know if the same system of quality control has been set up by the generic name fabricator. He does not know whether there is, within allowable variations, the same amount of an active drug in each tablet. He does not know whether the disintegration time is the same for each tablet. He does not know whether or not the product made by the generic name fabricator has ever been tested for purity or efficacy.

And, by prescribing a generic name product he does not even know which generic fabricator's products are being used. He may find that the prescription is filled at one pharmacy with one generic name product and filled another time at another pharmacy with another manufacturer's product. If the first is effective, the second may not be. Or, as we have seen in the case of amphetamine sulfate, the product of the first generic manufacturer may have not enough of the active ingredient to do the job, even though it is within an allowable variation; and the physician may be forced to drop a form of medication which would have been effective if the product had had more of the active ingredient.

It seems strange to me that as the medical profession fights to preserve its traditional role as the guardian of the public health, some doctors would give away some of the most important prerogatives of this role.

And, by giving away this prerogative of choice of medication, the doctor may be leaving himself open to new areas of legal liability. One legal expert experienced in pharmaceutical industry practice points out that "if a patient has a severely adverse reaction (to



a potent drug) he may wish to assert a claim for legal liability. In the present circumstances in which the doctor prescribes the product of a specific manufacturer, and that product is furnished by the pharmacist, the claim for legal liability is almost invariably directed against the manufacturer. However, under the generic prescription arrangement, neither the patient nor the physician would know who made the product which the pharmacist supplied to fill the prescription. In many cases, even the pharmacist would not know . . . if he carried more than one source of supply.

I leave it to you to decide who might be found liable by today's juries.

At times I feel that this whole brand name-generic name controversy takes on the aspects of a tempest in a teapot. The only argument (and I believe it's a weak one) for prescribing generic names is because they are less expensive than brand name prescriptions.

Yet, most Americans spend so little on drugs that it seems to me their saving would certainly not be worth the possible danger of this course.

In 1958, for example, the entire national bill for all drugs and sundries was \$3.3 billions. This works out to \$19 per person. And when you take out that spent for sundries and proprietary medicines, the entire per capita expenditure for ethical medicines runs about \$15 per person. Certainly this is not very much to maintain a country in the best health the world has ever known.

Compare this with the \$36 spent by each person for tobacco products in 1958, the \$53 spent per person on alcoholic beverages, and the \$24 spent on repair, servicing, and storage of automobiles. And yet, I hear no outcry to make only one brand of cigarettes, or one brand of bourbon.

While the price of everything we buy has gone up since World War II, the price of medicine has not kept pace with this general rise. Since 1947-49 the cost of living index has increased 23.7 per cent while the cost of medicines has gone up only 21.4 per cent.

During this same period, the cost of housing has gone up 28.7 per cent; personal care has increased by 29.7 per cent, and the cost of transportation has increased by 44.3 per cent.

Of course, because of the rapid year-in and year-out changes in medication, many of the drugs listed in the government's consumer price index are no longer widely prescribed. And yet, the price history of new medicines shows a rapid drop after they are introduced . . . as opposed to most other commodities which remain stable in price or show increases.

One study of drug price changes over the past eight years, made by American Druggist magazine, shows that nearly 65 per cent of them were reductions, while only  $\frac{1}{3}$  were increases. Penicillin once sold for \$100 for 100,000 units. In 1956, the price for that quantity was 22.2 cents. Speaking of 10,000 per cent increases in drug prices, this would appear to be a 99.8 per cent reduction. When cortisone was first introduced, the price was \$200 per gram. By 1957, the price had been reduced by 99 per cent to only \$2.00 per gram.

In 1956 the U. S. Department of Labor surveyed the prices of 37 selected drugs and pharmaceuticals over a three-year period. It found that 15 products had decreased in price by an average of 27 per cent while only 10 had increased in price by an average of  $11\frac{1}{2}$  per cent. The remaining 12 showed no price change.

And, despite inflation and despite the fact that each year has seen the introduction of new and effective medicine to cure disease, reduce pain, and permit physicians to try new and startling life-saving operations, the real price of the average prescription is less today than it was a generation ago. In 1939, the average prescription price was \$1.11. But it took the average manufacturing employee one hour and 45 minutes of working time to pay for it. Today's average prescription price is about \$3.00. But it takes only one hour and 21 minutes of working time to pay this price.



These, then, are the facts about medical costs. Do they really support an argument for prescribing by generic name? I do not believe so. For these facts show that despite attempts to portray the pharmaceutical industry as grasping, monopolistic, and conscienceless, despite the effort to make a whipping boy out of drug prices, the patient today gets more for his drug dollar than ever before.

In 1776, speaking to the Signers of the Declaration of Independence, Benjamin Franklin made his famous statement, "We must all hang together, else we shall surely hang separately."

Today, as the health team faces one of the gravest crises in its history, this statement takes on significance for us. For if, because of intramural differences, we do not put up a united front, those who believe in state control of medicine will find an easy road to their ambition.

And if, through the misguided efforts of some, legislation regulating drug prices, eliminating drug patents, or requiring prescribing

by generic name is passed by state or federal government, on its heels will come further legislation regulating physicians' fees, hospital costs and procedures, and the medicine that must be prescribed by the physician.

With legislation of this kind will come an end to the practice of medicine as we know it in this country. The delicate physician-patient relationship will be destroyed; the search for new and improved medications will be suffocated as it has been in England, and the freedom of the patient to consult the physician of his choice and the freedom of the physician to prescribe the medicine of his choice will come to an abrupt end.

This, I think, is the end result of the misunderstanding about drug prices. And it is up to all of us active in the health field to put an end to these misunderstandings. And we must act together. For, if we do not, we will all be the losers. The manufacturer, the pharmacist, the physician, and, in a truly tragic sense, the patient . . . the American public.

I thank you.

## Necessity For A Sound Dollar

*Ivy Baker Priest*

Treasurer of the United States

It has been argued by some that growth and prosperity can be boosted by a little inflation. Others have taken the position that growth can be helped by more government spending, regardless of its effect on prices.

These people charge that those who insist on a balanced budget and fiscal soundness are too rigidly adhering to old-fashioned conceptions—that they are against maximum growth.

I cannot answer this better than in the words of President Eisenhower, who said:

"Let us not be misled. A balanced budget and all that it means today in the way of fiscal soundness is a highly positive objective. It is the advocates of unbalanced budgets and deficit spending in our present economic environment who are against rather than for the maintenance of healthy growth in America."



America today, paradoxically, faces both a future of remarkable promise and an economic challenge of serious import. Economists are virtually unanimous in their appraisal of the "Golden 60's" as a period of economic growth and prosperity extending far beyond any present levels of production, employment, and economic well-being.

The basis for this expected prosperity rests both on the unusually rapid population increase that has already occurred and is continuing and on our accelerated technological development, which is rapidly bringing new products and more efficient techniques of production and distribution.

Looking a little further into the future, the Secretary of the Treasury recently told the graduating class of the University of Houston:

"Within the next 25 years we will virtually double the producing capacity of America. We are going to have to create some 35 to 40 million new jobs. We shall need something like one million additional school rooms and 30 million more homes. We shall have to build hundreds of thousands of miles of new highways and thousands of new hospitals, and somehow find room for 60 million more automobiles and trucks.

"We must develop more than 10 million acres of bare land for homes and streets in our spreading metropolitan areas. The development and conservation of water resources will be a major task, and so will the development of an energy base to meet a demand which may well triple."

This strong outlook is generally held to be clearly foreseeable, and it is widely taken as a basis for business and investment planning. Unfortunately, however, one important ingredient needed to bring this outlook to realization is in real danger of proving inadequate.

This is the large volume of investment funds that will be required to build the new plants and equipment and provide the new jobs that will be needed if our economy is to

keep fully in step with our growing population and improved technology.

The question must inevitably be raised: From what source are we going to accumulate the necessary capital for a doubling of output over a twenty-five year period?

The answer is clear. The necessary capital can safely come from just one place: Savings—the excess of what people earn over what they spend. There is no other acceptable source.

Yet it is regrettable that some few people today are advocating policies that strike at the very heart of the savings process.

Savings habits are indeed deeply ingrained in the American economy. We must recognize, however, that the savings process is not an automatic feature of our type of private enterprise system.

As President Eisenhower has emphasized, the decision to put aside funds for future use can only take place in a climate of confidence—confidence in the value of the dollar and confidence in the capacity of our economy for sound and sustained growth.

There have been attempts to minimize the danger of inflation, particularly by those who would increase government spending programs. The fact that prices and living costs have held generally stable is cited as evidence that the inflationary trend has lost its force.

The basic facts, however, show contrary evidence. They indicate that price inflation is still with us and that inflationary pressures are continuing.

It may be noted, for example, that although wholesale prices and living costs have leveled out, both price indexes topped their former record highs by small margins last spring. More importantly, the apparent stability of the price indexes has been due almost entirely to excess supplies of farm products.

Declining prices of farm products and foods have masked continued advances in other prices. Meanwhile, wage rates in manufacturing industries have continued to rise, and



wholesale prices of manufactured products have been increasing noticeably to new highs. These trends, of course, are later reflected in retail prices.

Very clearly, there is nothing in this picture to warrant complacency over the inflation outlook.

On the contrary, there is a very obvious need for a considered program to reverse the drift toward loss of confidence.

During the past two decades the value of the dollar has fallen by more than 50 per cent, but there is certainly little general understanding of the inflationary dangers resulting from continuing large government deficits.

A sound fiscal program calls particularly for discipline and prudent reality in selecting what the nation can afford and what it cannot afford—in deciding between things that are necessary and things that are merely desirable. Not even the most prosperous country can afford at one and the same time everything that seems desirable to every group.

A balanced budget requires hard work, understanding, and compromise; but it is essential if we are to maintain the flow of savings required for continued sound expansion.

The danger to our economy represented by continued government deficits actually comes about through a very simple process.

When the government spends more than it takes in, it must borrow the difference in order to pay its bills. To the extent that these funds can be obtained only by resorting to borrowing from the commercial banking system, there is real inflationary pressure.

The reason borrowing from commercial banks increases inflationary pressures is that the commercial bank will simply credit the government on its balance sheet for the

amount requested, say \$100 million. It does not switch out of any other investment to make the purchase.

As Secretary Anderson has stated, this is in effect like adding \$100 million, subject to reserve requirements, to the money supply of the nation without relation to an increase in goods. Borrowing from the pool of investment funds, on the other hand, does not increase the money supply; it makes use of savings accumulations already in existence.

An inflationary society is a disorganized and an inefficient one. It is a very poor base from which to conduct a long-term worldwide struggle against those who would destroy us if they could. It is a particularly poor base from which to meet the strain of a sudden emergency.

An indifferent attitude toward imprudent spending and toward other measures that threaten the stability of the dollar could in time destroy the basis of both our economic growth and our national security—the confidence of Americans in the future of this country.

In a free nation, this confidence stems in the last analysis from the actions of individual citizens. It cannot be legislated into existence, nor maintained by government decree.

Our young people still in school—the children now being born—will receive their American heritage not as it came down to us but as we have shaped and changed it by the choices and decisions which we are making or failing to make today.

Let us make no mistake about it. Our way of life is on trial and the choices we make today may determine the course of freedom for many millions of people in the generations to come.



# Administrator, Trustee, Medical Staff Teamwork

*Robert A. Ivy*

Never in my wildest imaginings have I visualized myself as a marriage counselor. Yet I stand before you today cast in this precarious role. Moreover, my presumption is compounded by the appearance in this happy but sometimes troubled state of not two partners but three: the hospital board, the medical staff, and the administrator. You know you can get shot interfering with a marriage; so I invite your sympathetic support for my dangerous and rather quixotic position. Two circumstances have lured me into the acceptance of this invitation. In the first place, I have always had a wonderful time at your state meetings; and in the second place, I could not resist the opportunity to talk away from home. You have no idea how much wiser I feel over here than I would in Mississippi.

In discussing administrator-trustee-medical staff teamwork, my observations are colored and defined by my professional background. My entire hospital career has been spent in a small hospital in a small town. Dr. MacEachern referred to small hospitals as ranging from fifty to one hundred beds. The Joint Commission in approaching the problem of the division of clinical services sets seventy-five beds or less. For the sake of reference I shall use these figures. The term "small" is, of course, relative as we are all aware when we engage in conversations with hospital people from the metropolitan centers of the East and other parts of the country. As the preponderance of the hospitals of Mississippi and Alabama fall within my selected reference and as rather compelling problems

have arisen in many hospitals of this size, it is, I feel, significant to relate our subject to them.

Since the emergence of the modern hospital, trouble and adjustments have, of course, been with us. It might appear, however, that conflict, which is the negative companion of teamwork, has sprung full-blown from the last decade. Is this an indication of the degeneration of our hospital system? Is this a symptom of faulty philosophy of hospital organization? I am convinced that it is a manifestation of growing pains and that although it will never be eradicated, time and forbearance and dedication to the common good will carry us safely through the critical stage.

To evaluate properly the goal of teamwork set forth today, it is necessary to look closely at the game in question. Like a woman panelist on a recent television quiz show who directed all her questions on the assumption that professional basketball like professional football is played on an outdoor field, we can be carried down a primrose path if our opinions are based on fancy and not on facts, on emotions and not on an objective appraisal.

To consider the association of men who function as trustees, as administrators, or as members of the medical staff, it is essential to view this association in its historical perspective. This will illuminate in large measure the obscure factors of misunderstanding and insecurity and lack of trust that have been deterrents to effective teamwork.

Social changes, though varying in pace and creating dislocations as they occur, are the result of growing social needs. The people will be served; and as our population has become increasingly urbanized, as the home has become increasingly inadequate for the care

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\*Mr. Ivy is administrator of Doster Hospital & Clinic, Columbus, Miss. This paper was presented at the 39th Annual Convention of the Alabama Hospital Association in Birmingham, Jan. 21-22, 1960.



of the sick, and as tremendous strides have been made in the refinement of medical skills and their application, an over-whelming demand for additional hospitals has existed. War conditions interrupting even normal building, shored up these needs to sweeping proportions. What was the picture of a typical small town nestling unchanged at the foot of the dam? Basically it was the same town from a medical and hospital standpoint that had stood through several generations. There were doctors who cared for the sick to a large extent in the home. There were surgeons usually with one dominant member who owned and ruled the hospital that functioned as a vehicle for their practice. The general practitioners and small growing group of specialists used these facilities as they felt the need for them, and the acute cases requiring more care were referred to medical centers—in my locality to Memphis, New Orleans, and Birmingham. In the small town, then, the hospital in most instances was owned, controlled, and supported by a doctor or doctors. Please do not misinterpret my presentation of this picture. The institution in which I now work has been kept alive since the 1880's by sustenance drawn from a succession of men of this kind. To have a place to work, theirs has been an expensive, backbreaking social contribution superimposed on the exacting profession of medicine. It has too often been a thankless task. It has left the members of the medical profession, however, with their thinking and their emotions oriented to a broader concept of hospital affairs than the responsibility of its professional aspects.

What of the townspeople? Their concept of their position was an outgrowth of the traditional pattern I have already mentioned. They might grumble slightly, but in large measure it was a hands-off policy. Medicine and hospitals were posted property and they dared not trespass. It was an unknown field bordering almost on the occult, and any meddling would automatically involve dealing with the family physicians and there would then be an element of intimacy that precluded any objective, business-like approach.

Upon this scene, with all the subterranean social needs earlier mentioned, fell a highly explosive fragment of the A-bomb that hit Japan. The death knell of the Second World War had been sounded, and as an obscure concomitant, the death knell in the small town of the hospital system as we had known it. A post-war world brought a fresh look at the hospital situation. A post-war world brought new legislation and the Hill-Burton hospital. Certainly in the small town the Hill-Burton hospital has launched the marriage if not the tranquil association of the doctor, the hospital trustee, and the administrator.

With an underscoring of need, with money available, in most instances with most doctors eager to have the burden of hospitalizing the community lifted from them, the Hill-Burton Bill precipitated what amounted to a social phenomenon. Town fathers became interested in the acquisition of beautiful hospitals; townspeople became progressively aware of their availability, and hospitals mushroomed at an amazing rate.

An imposing facade and the latest equipment were not the only additions. The responsibility of operation was present; and added to the group that logically would direct the professional care, there emerged as the ultimate repository of responsibility, the governing board and the agent of this board, the administrator.

The advent of the lay administrator in the small town is a revolution within itself. Sixteen years ago when I assumed my present position, there were four or five lay administrators in the state of Mississippi; and these were, of course, in the larger towns. Three of these attended my first state hospital meeting which was a half-day rump session of the state medical meeting. When today we look at the array of trained lay people attending our meetings, we can appreciate what a change has occurred within such a brief span of years. At first the doctors viewed with some misgivings the transition in the state association of their control to this new unproved group. Time has reassured them and now



the doctors present constitute a significant yet minority segment of those in attendance. There is now recognition of a common goal and a quality of unanimity that makes our state association the effective instrument that it is designed to be.

This flow of changes in the communities to which I refer would appear on paper logical, accepted, and even invited. Now for the sake of being realistic and defining to some degree the complex of problems that threaten to demoralize this hometown team, let me list for our corporate thinking some of the issues that have arisen. Some of these may be isolated and somewhat exaggerated by the attendant publicity; yet, it is necessary in dealing with trouble to have as complete picture as possible without disguise or camouflage. Otherwise, we shall be tilting with windmills; and we shall be armed with only empty words.

First, I think we must consider this new institution that has entered the scene. Although it is a source of pride and a recognized symbol of service, it has also become a community responsibility. This is a new child to be cared for, adjusted to. Above all the configuration of its personality must be gradually explored as it takes its place in the family household; and as it does, all the neighbors will have very definite ideas that add to the confusion. Out of the democratic process of acquiring this hospital there gradually emerges the realization that although it must be responsive to community needs and opinions, its control and orderly direction must be localized in a defined group, a group that will replace the directional function of the doctor. And so the governing board takes its place at the head of the table . . . with all of the aplomb and shyness overlaid with bluster assumed by the groom who presides at his first family gathering. Civic minded, loyal men have risen to the need. What is to be required of them is still a little hazy.

Now from the outset it has been realized that the execution of policy, the mechanics of staffing, liaison, maintenance, dealing with the public, and all the innumerable facets of

administration must be vested in a selected agent; and the hospital administrator steps forward to fulfill this function. By this transmission the hospital has now become activated.

What in the meantime has happened to the doctors of the community? Does their recognition of this trend to establish a community-centered hospital remove them from the scene? In caring for the sick have they completely abdicated? I think to tell the truth they have joined this new lay group called the Board and this new individual called the Administrator in being somewhat bewildered in regard to function and position. Of course, it is academic that their function will be the professional care of the sick of the community. They, of course, will direct the treatment of the hospitalized ill. The scope of their professional regulations in this institution that has replaced the hospital to which they have become accustomed is ill defined. This in itself would make a man uneasy and wary.

To bring into sharper focus a picture somewhat blurred by generalities, let us resort to certain specific problems. Has the doctor who has in many instances sacrificed an investment in time, strength, and money in disposing of his hospital, to be on equal footing with the other doctors who will utilize this new institution. There is present not only the consciousness of what he considers abnormal sacrifices, but his intellectual and emotional approach to his role in any hospital is colored by his past. He has the habits of a professional lifetime to revamp and adjust. He has owned, controlled, and bossed the hospital where he has worked in the past.

Small, indeed, is the community that has not had at least two rival professional factions. How can they be coalesced into a harmonious whole as the professional team of the new hospital? Possibly only one faction has been involved in the closing of the old private hospital. Should this side ease in with a slightly preferential consideration?

In a community there may be one dominant doctor. Should he be the kingpin from a professional standpoint in the new hospital?



The nature of his position and past performance and sometimes his material holdings reach most of the members who comprise the Board. What is to be done with him? Should one even attempt to make him conform? Is it worth it?

Now let us look briefly at the Board itself. Though well meaning, frequently this group, through lack of orientation to the task, aborts its efforts by pushing too hard or maybe not hard enough. With the close association in a small town each member frequently draws his opinions and information from some close friend who is hospital connected either as a doctor or as a key employee. The divisive forces at work have now penetrated all the way to the one vital body that must function as a unit.

In a small town the administrator frequently enters the scene handicapped by dealing with a boss who has two heads. Bewildering it must be to attempt to function from the directives and policies of a Board that is either divided or does not know its own mind. It is also natural that the position in a new, relatively small hospital will not attract an experienced, seasoned administrator. This man, faced with the necessity of making decisions and holding firm, frequently out of insecurity will prematurely take a stand from which he feels he cannot withdraw. This gives birth to excessive extension of control within the hospital. This breeds conflict with the medical staff. This offends personnel to the point that it is impossible to distinguish between high-handed interference and justified adjustment. This dark behavior and performance on the part of a man who had shown promise is sometimes the by-product of desperation he feels as he faces an impossible administrative situation. In some cases it springs from a very deadly source . . . the assurance of ignorance. When this is true, the administrator is laying himself and, in turn, his Board wide open to allegations of incompetence, interference, and the preempting of powers that are not his to enjoy.

What in my discussion has happened to this quality of cooperative effort I obligated myself to advance? If what I have been talking about is teamwork, we shall need an ambulance to collect the participants. The problems reviewed, I feel, should be considered; and if they cannot be effaced, they can be lightened. I have avoided as abnormal and not obtaining, the instances where there have been lack of good faith, dishonesty, and hidden, unsavory trading. This does not come within the scope, I feel, of our considerations today.

The prospects for the refined functioning of our hospitals in their broadest concept, I am convinced, are most favorable; and growth in quality is inevitable. The well-spring of motivation and the ultimate compensation for all is the deep satisfaction of service. Upon this high plane conflicts are dissipated; and for the doctor, the trustee, and the administrator there is an identity of purpose and the realization of mutual need. Yet with this binding force, wise planning and certain mechanical aids can be employed to obviate surface trouble that can spread and deepen.

It appears to me that somewhere along the line, in the very incipency of community hospital program and the earliest explorations for its advancement, there has been inadequate orientation on the local level. This lack of preparation has extended to the citizens who are to be served, to the doctors whose lives are to be so drastically altered, and later to the designated governing board and the administrator. An ounce of prevention is worth a pound of cure; and although I am not so foolhardy as to advocate academic courses in hospital problems, there should be an orderly progression toward the acquisition of a community hospital in which all local issues are placed on the table and thoroughly ventilated. Every segment of people involved should be fully aware of all the implications just as far as they can be projected. Understandings at the beginning and a mind set toward adjustment automatically will prevent many conflicts and mollify many others that do occur. Trouble spots



do not disappear by being ignored; they can be most effectively treated by early detection.

Who is to rise to this vital educational process? Later I shall be eager to hear some of the distinguished members of our panel speak to this. Should not the very town leaders who inaugurate the impulse for a new hospital recognize and assist? State agencies, consultants, and nationwide facilities and organizations are available to give expert and objective advice. Tilling the soil in this manner I feel will reap an abundant harvest in good-will, understanding, and smooth operation. The course should be wisely charted, and the reefs if not removed at least become evident, and the calculated risk accepted. State hospital associations in the broadening concept of their function are becoming progressively equipped to analyze, guide, and nurture the new institution as it comes into being. In Mississippi for four years we have had an association of members of governing boards; and although the launching of this group has been somewhat difficult, the annual meeting, the regional activities, and the material disseminated from a central source have kept the membership informed. The reach of such an organization into the thinking and planning of a community giving birth to a new hospital could aid immeasurably in the quality of men selected for the board, the detecting and minimizing of local politics, and the defining of duties.

Education both intensive and long-range is the primary target. The above mentioned suggestions are merely random projectiles. They can certainly be intercepted and destroyed by apathy, self-seeking, and political maneuvering. The desire to build and establish a good hospital must spring from the people it will serve and from those who will be the agents of this service. Discipline and quality arise from within. Nothing can be superimposed upon a community that it does not want and invite.

Before the doctors, the governing board, and the administrator can effectively function as a team, there are ground rules that

must be recognized and acceptable to all. Here we have introduced the basic principles of hospital organization and management. Here is the great clearing house for trouble. Each hospital, irrespective of size, is as unique as the fingerprints of an individual; yet all hospitals, in addition to the broad general aims that are obviously similar, are governed by laws of operation that are applicable to all. This, of course, makes standardization and accreditation possible. This today permits us whether we are from a large or small institution to reduce our problem to a common denominator.

Now for me to stand here and even outline the rules and regulations pertaining to board organization, staff organization, and the selection and commissioning of an administrator would end the program this morning. Not only would you and the panel be asleep, I would be, too. Such a presentation would of necessity be so full of quotation marks that it would be no part of me.

In our considerations today, however, I do believe that the greatest step toward the achievement of teamwork lies in a deep respect for the formal, recognized laws of hospital operation. This is the broad framework that must contain the concerted effort. This must be the underlying theme that is basic in spite of variations. Too often it appears that the application of defined organization is impractical and artificial. Too often it seems that such formality is fine in a large institution but completely without justification within a small one. Too often to the casual eye it appears to be a machine larger than the building in which it is to function. Again I maintain that adaptation and not abandonment is the answer.

The scope and function of medical staff, the scope and function of the governing board, and the definition of what constitutes administrative prerogatives must be understood completely. Although the composition of the prescribed committees must be adapted to the local situation, the functions of each must be carefully preserved. The very mechanism that seems obstructive frequently



becomes the means of averting trouble or of resolving it when it does occur. Surveying property lines and placing markers tend to keep each of the components considered today within its own domain, and trespassing if not abolished is at least minimized. The administrator does not meddle in professional affairs. The board does not negate the function of its own agent by dealing independently with personnel. The doctor does not feel that the administrator is a presumptuous upstart as he assumes the duties he is paid to undertake.

In the adoption of what appears to be a rather definitive blueprint, there is the danger of running afoul of over-simplification. Above all, we must recognize those hazardous twilight zones of overlapping function. Here is the breeding ground for trouble. Here is the launching pad for subsequent irreconcilable community-wide conflicts. The suggestions I now advance may seem high flown and idealistic, but I believe in them deeply.

The close, effective relationship within our hospitals of doctors, trustees, and the administrator is built on the same attitudes and behavior that foster friendship. Concern for

the other fellow and not personal defense should motivate us. Recognizing our many faults, we should carry into our association a forgiving and charitable spirit. While standing firm for what we know is right, we should at the same time attempt to view the situation from the other man's position. It is so easy to interpret disagreement as attack. It is so easy to rush to the battlements of our own defense rather than to seek a resolution of trouble. A large part of the dark emotional climate we sometimes denounce as we serve as administrator or doctor or board member is a projection of our own indignation that we have been somewhat soiled by our own conduct and feelings. Embracing the right attitudes, we can attack ignorance and suspicion with knowledge. Keeping the vital lines of communication open, we can detect and deal with trouble before it forces us to draw lines and to choose sides. With concern for the sick of our community and with interest and concern for the men with whom we work as individuals, we know that our happiness and effectiveness in our work are multiplied. If from my whole discussion I could shoot one arrow into the air, I would like for it to be this: "Let's keep our hearts right".

HOW MAJOR VOLUNTARY HEALTH AGENCIES SPEND THEIR MONEY

Percentage of Funds Spent in Last Budget Year

Name of Agency	Funds Raised	Fiscal Year Ending	Medical Treatment	Research Grants	Lay & M. D. Education	Community Services	Fund Raising	Other Purposes
National Foundation	\$34,000,000	1/31/59	53%	12%	11%	7%	13% (4.7*)	4%
American Cancer	\$30,373,000	8/31/59		30	28	24	10	8
National Tuberculosis								
Christmas Seal	\$25,955,390	3/31/59	2	3	34	24	15	22
American Heart	\$24,004,865	6/30/59		37.5	22.5	14.5	13	11.8
National Society for Crippled Children and Adults	\$16,791,850	8/31/59	60.3**	2	7.4	3.3	15	12
United Cerebral Palsy	\$ 9,508,000	9/30/59	35	7	13	29	11	5
National Assoc. for Mental Health	\$ 5,510,470	12/31/59		22	38	19	7	14
Muscular Dystrophy Assoc. of America	\$ 5,508,618	3/31/59	22	42	10	7	13	6
Sister Elizabeth Kenny Foundation	\$ 4,975,000	12/31/59	47	16	24	1	9	3
Arthritis & Rheumatism Foundation	\$ 3,605,612	6/30/59	30	29	11		14	16

\*Headquarters only  
\*\*Includes sizeable expenditures classifiable also as "Community Services".  
Compiled by the A.A.F.R.C., with the cooperation of the agencies. Since there is no standard form of accounting, these reports are not necessarily entirely comparable.





## MEDICAL CENTER NEWS

### DR. VOLKER HONORED AT TESTIMONIAL DINNER

Dr. Joseph F. Volker, who will begin a year's leave of absence July 1, was honored April 14 at a testimonial dinner sponsored by a group representing many areas of the community's business, civic, and educational life.

Lt. Gen. John C. Persons was chairman of the committee which arranged the dinner, held at Mountain Brook Club. He said in leading off some 19 speakers who paid Dr. Volker verbal tribute, "We are here tonight to tell him we will miss him, to extend to him our best wishes, and at the same time to let him know what the people of this community think of him."

Dr. Volker, dean of the School of Dentistry since its inception in 1948 and director of research and graduate studies here since 1955, is taking the year away from the Medical Center to conduct a medical school study for the Arizona universities and state colleges board of regents.

Serving with Gen. Persons on the planning committee were Mervyn Sterne, Arthur V. Wiebel, Frank A. Plummer, Ehney A. Camp, Jr., Dr. Robert C. Berson, Dr. Champ Lyons, and Dr. Tinsley Harrison. Dr. Richard T. Eastwood assisted in making arrangements.

Dr. Berson, University vice-president for health affairs, and Dr. Harrison, professor of medicine, were among the speakers who described Dr. Volker's contributions to the educational and community welfare of Birmingham and Alabama. Others were Dr. Frank A. Rose, University president; Dr. John M. Gallalee, University president emeritus; Dr. Arthur H. Wuehrmann, associate dean of the School of Dentistry; Paul Hufham, president of the dental student body; Dr. Myong Su Kim, graduate dental student.

Lt. Gov. Albert Boutwell; Dr. Howard Phillips, president of Alabama College; Dr. Cecil Abernathy, dean of Birmingham-Southern College; Dr. John A. Fincher, dean of Howard College; E. H. Gilmore, associate commissioner of Jefferson County; Walter Emmett Perry, Jr., chairman of the county legislative delegation; J. W. Kinnear, Jr., executive vice-president of TCI.

Dr. William M. Murray, Jr., director of Southern Research Institute; Dr. Paul R. Huffstutler, president of the Alabama Dental Association; and Crawford Johnson III, vice-president of the Community Chest; Dr. E. B. Glenn, former president of the Jefferson County Medical Society.

### DR. FRANCIS KRAUS TO LECTURE TO DENTAL STUDENTS

A distinguished Czech scientist with nearly 50 years experience in dental practice and research is currently visiting Birmingham and the Medical Center.

He is Dr. Francis Kraus of Prague, father of Dr. Frederick W. Kraus, who is associate professor of clinical dentistry and assistant professor of microbiology here and chief of dental service at the VA Hospital.

When the elder Dr. Kraus came to the United States on April 1, he had not seen his son since 1945, when he was in England with Czechoslovakia's Red Cross and Dr. Frederick Kraus was stationed there with the American Army.

The visitor will be a guest lecturer of the School of Dentistry for six months.

Dr. Kraus is the author of *Prevention and Correction of the Developmental Anomalies of the Orofacial System*, which will be published in German in 1961. The book was first published in Czechoslovakia in 1956.



Much of the material for this book was gathered during the years 1947-57, when Dr. Kraus was chief of a regional department of preventive stomatology and orthodontics for the Czechoslovak Ministry of Health, acting also as a field consultant in establishing similar offices in other parts of the country. He combined this work with private practice until his retirement at the end of 1957. Since that time Dr. Kraus has continued to work with Czechoslovakia's Stomatologic Research Institute.

Dr. Kraus received his M. D. in Prague in 1911 then did postgraduate work in dentistry in Berlin and Vienna. In Czechoslovakia dentistry was—and still is—a specialty of medicine. Both Dr. Frederick Kraus and a third brother, Dr. Ernest F. Kraus of Prague, followed their father into dentistry after getting the medical degree. Dr. Ernest Kraus now specializes in the particular branch of preventive orthodontics in which Dr. Francis Kraus has made such important contributions.

#### **DR. LAWRENCE REYNOLDS IS VISITING PROFESSOR OF RADIOLOGY**

Dr. Lawrence Reynolds of Detroit, collector and donor of the historic medical books and records now housed in the Reynolds Library here, has been named visiting professor in the department of radiology.

A native Alabamian and graduate of the University, Dr. Reynolds is now chief-of-staff and chairman of the department of radiology at Harper Hospital, Detroit, and clinical professor of radiology at Wayne State University. He is a former president of the American College of Radiology and this year won the college's gold medal for outstanding contributions to the profession.

#### **EIGHT LOCAL PHYSICIANS RECEIVE NIH GRANTS**

Grants totaling \$212,333.00 were recently awarded to eight members of the University faculty by the National Institutes of Health.

Dr. Frederick W. Kraus was given a grant of \$34,500 for study of antimicrobial sub-

stances in saliva and oral tissues; Dr. Mervyn B. Quigley was granted \$32,216 for electron microscopy of dental tissues; Dr. Giulian Quintarelli was awarded \$14,265 for study of histochemical changes in the developing tooth-germ; Dr. Hugh D. Hall received \$18,980 for study of parabiosis, acquired tolerance, and caries in rats; Dr. Leonard H. Robinson was assigned \$9,033 for a histochemical evaluation of osteoclast.

A little less than \$57,000 was earmarked for investigations of the velocity of pressure waves by Dr. William Klip, project director. For functional evaluation of surgical heart disease, Dr. Henry B. Thomas was awarded \$35,575.

Dr. H. V. Murdaugh, Jr. received \$10,764 to study the diving reflex and volume receptors in the seal.

#### **UNIQUE FOREIGN FELLOWSHIP PROGRAM TO SEND MEDICAL STUDENTS TO REMOTE AREAS**

EVANSTON, ILL., April 6—A unique fellowship program designed to further medical education by sending future doctors to remote areas of the world was announced today by the Association of American Medical Colleges.

Dr. Ward Darley, executive director of the AAMC, said the program would "enable selected medical students to gain wide clinical experience as well as assist in the continuing war against disease in the backward areas of the world."

The three-year program, established under a \$180,000 grant from Smith Kline & French Laboratories, is open to all medical college students who have completed their third year of study, Dr. Darley said. Scheduled to begin this summer, the program will permit an average of 30 students to participate each year.

"This unique program opens the way for these students to learn more about their profession in alien settings. The medical opportunity inherent in working with dedicated men already practicing in Africa, Asia and



other far-off places provides a first-hand experience in the care of patients that cannot be obtained in the formal academic environment," Dr. Darley said.

Dr. Darley pointed out that the SK&F Foreign Fellowships also provide "an excellent opportunity for cultural development since these preceptorships enable the students to view at first hand the mores and ethical backgrounds of other peoples."

By the same token, he said, students will be able to bring modern American science to more primitive regions while representing the United States as "unofficial ambassadors."

Eligible students who are prepared to spend an average of 12 weeks working in foreign locales have been urged to submit applications to their respective deans for review. Following initial screening, up to three applications from each school will be forwarded to a distinguished panel of physicians who will make up the selection committee for the SK&F Foreign Fellowships.

The committee includes Dr. Robert A. Moore, President, New York University, Downstate Medical Center, chairman; Dr. Richard A. Young, Dean, Northwestern University Medical School, School of Medicine; Dr. Carroll L. Birch, Professor of Medicine, University of Illinois College of Medicine, and Dr. Robert G. Page, Assistant Dean, University of Chicago, School of Medicine.

Awards will be made on the basis of the applicant's ability and objectives with special consideration being given to those programs which cannot be realized in the United States and through which the student can bring back valuable knowledge to this country, Dr. Darley added.

The cash award for the fellowship will be made on an individual basis. In some cases, Dr. Darley said, a contribution will be made for the student's spouse if this seems desirable in terms of the objectives of the trip.

After completion of the fellowship, each student will be required to submit a written

report on his experiences to the selection committee.

Applications by the students must contain a letter detailing the proposed trip as well as a complete estimate of the expenses to be incurred and the total amount of the fellowship requested. The letter must include the location to be visited, purpose of the trip, personal reasons for wishing to undertake the program, and the amount of time that will be involved. All other pertinent data that will aid the deans and selection committee also should be included.

In addition, a personal history of the applicant and a letter of acceptance from the foreign sponsor with whom the student will work abroad also are required.

#### **BEAU DUNN NAMED PRESIDENT OF MEDICAL STUDENT COUNCIL**

Beau Dunn of Wetumpka, who has been president of his class all four years in school, will be president of the Medical College Student Council during the next academic year. He was reelected as head of his class for 1960-61 and named president of the council during April.

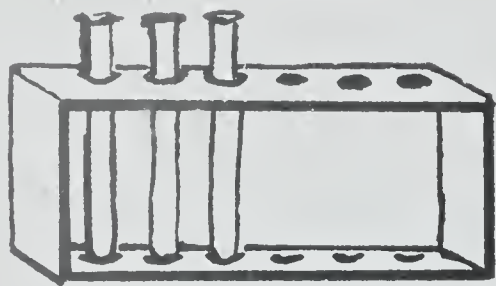
Other council officers are Ed Young of Montgomery, newly elected president of the next junior class, vice-president; and David Taunton of East Tallassee, incoming sophomore class president, secretary. The fourth member and treasurer of the council will be the president of the new freshman class.

#### **SAMA MEMBERS ATTEND CONVENTION**

Four delegates represented the Medical College at the national convention of the Student American Medical Association in Los Angeles last month.

They were Dan Merck of Birmingham, president of the senior class and the student council; Beau Dunn, Wetumpka, junior class president; Ed Young, Montgomery, sophomore class president; and Mrs. Neal Coleman, SAMA Auxiliary president. Mr. Coleman, a junior medical student from Luverne, accompanied the group.





# STATE DEPARTMENT OF HEALTH

## BUREAU OF ADMINISTRATION

D. G. Gill, M. D.  
State Health Officer

### THE DENTAL PROGRAM AT THE STATE TRAINING SCHOOLS

The Alabama Boys Industrial School, the Alabama State Training School for Girls, and the Alabama Industrial School for Negro Children are state-operated institutions. Their limited budgets do not provide sufficient funds to meet the dental needs of the students. Children aged 12 through 18 from all over the state are assigned to these institutions by court order for the purpose of reclamation. Their average stay is 18 months.

Most of these children come from homes and environments which contribute to their delinquency. The extent of their dental care prior to becoming wards of the state is nil. During their stay in the training institutions their health and welfare are the direct responsibility and concern of the state.

The Alabama Boys Industrial School has an average enrollment of approximately 200 white boys. A visiting dentist serves their needs on two half-day sessions per week. The Alabama State Training School for Girls has an average of 90 girls enrolled. A dentist visits this institution for one half-day session each week. The Alabama Industrial School for Negro Children, with an average enrollment of 400 boys and girls, is served by a visiting dentist one day each week. Needless to say, the amount of care which is possible in the limited time is most inadequate.

To make additional dental care available for the children in these institutions, the Bureau of Dental Hygiene has developed a plan with the following purposes:

(1) To provide needed basic dental services for these children while they are charges of the state. These services will supplement the care provided by the visiting dentists.

(2) To provide one phase of health education for this segment of the population, attempting thereby to motivate these children to adopt certain habits of health and hygiene which will benefit them throughout life.

(3) To assist in the rehabilitation of delinquent children by helping to raise the level of their total health.

(4) To determine the dental needs of delinquent children in Alabama.

(5) To assess the amount of dental care obtained by this group.

(6) To determine the correlation between the above data and socio-economic factors.

(7) To evolve a schedule which will most effectively utilize the potential capabilities of a full-time dentist employee during the summer months.

The Bureau of Dental Hygiene will participate in the current dental program of each institution upon request by the superintendent of the institution. Participation will necessarily be limited by time available and present commitments. The decision as to whether or not to utilize the state mobile dental unit will be based on an assessment of the physical resources and facilities available for dental services at each of the institutions. The dental clinician will restrict his services to the youngest of the age groups represented in each institution and will endeavor to complete as much of the total den-



tal needs as possible. Priority will be assigned to needs as follows:

1. Alleviation of pain
2. Elimination of infection
3. Restoration of the permanent dentition
4. Prophylaxis and topical application of stannous fluoride

After completion of the needs of the 12 year olds, those in the 13 year old group may be taken if time permits. In any event, emergency treatment will be rendered—only for the alleviation of pain by the most expedient and feasible method at hand—to all children regardless of age during the period of the clinician's stay at the institution and only in the event that such emergency occurs when the regularly employed visiting dentist is not present. No care will be provided for anyone in the institution except the children committed to its care by court order.

This program will not replace either the regular dental program currently in effect at the institutions or the clinician but will supplement the services which the institutions already purchase.

#### **PARKE-DAVIS DEVELOPS SINGLE DOSE PRODUCT FOR PINWORM INFECTION**

DETROIT, May 7—Parke, Davis & Company today announced development of a new drug that is more than 95 per cent effective in eliminating pinworm infection with a single dose.

The new drug, Povan, climaxes nine years of research and screening of more than 5,000 compounds by the world-wide pharmaceutical firm, and may well contribute to the removal of pinworm as a health problem.

Clinical trials with more than 500 children in the U. S. and Canada show the curative value of a single dose of Povan was virtually 100 per cent effective within one week after taking the strawberry-flavored liquid, the company said.

Povan (Pyrvinium Pamoate) is the trade name of the drug which is available by prescription only.

Pinworm is an intestinal infection which disregards socio-economic levels and is prevalent in approximately 20 per cent of the population of the United States. World-wide incidence of the infection is estimated at more than 200 million children and adults.

Povan is composed of pyrvinium and pamoate radicals. The pyrvinium part of the drug belongs to a class of polymethine dyes useful as color sensitizers in photography. The pamoate is derived, following a series of chemical reactions, from coal tar. The pamoate has the advantage of being able to travel down the gastrointestinal tract directly to the sites where the worms lodge without being absorbed into the blood stream.

Although the infection can be transferred readily from the child to all members of the family, it is still most common in children, thumb-suckers and nail-biters being most susceptible. The typical symptom is anal itching and although not a dangerous disease when uncomplicated by other conditions, infected children become irritable.

Pinworm infection may be transferred from person to person by direct contact; by handling contaminated objects; and by breathing air-borne worm eggs as a component of house dust.

Eggs from the worms (estimates place the egg-producing potential of pinworms at from 4,500 to 20,000 eggs per worm) contaminate the bedclothes and even the air from which others acquire the infection. For this reason, treatment of all members of a family where one or more is infected is considered the most effective means of eradication.

Cleanliness, physicians agree, is one of the main factors in controlling the spread of pinworm infection: hands should be washed before meals; morning showers taken to wash away eggs deposited during the night; daily washing of bedroom and bathroom floors; and daily changes of bedding.

Sanitary precautions alone have been inadequate in eradicating the infection. Povan, according to Parke-Davis, has proven effective and may well give the physician the most efficient medicinal agent yet available.



DEPARTMENT OF HEALTH

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1960

	March	April	*E. E. April
Typhoid & Paratyphoid.....	0	1	1
Undulant fever.....	0	3	2
Meningitis .....	9	6	8
Scarlet fever.....	157	151	49
Whooping cough.....	3	8	49
Diphtheria .....	2	6	4
Tetanus .....	1	2	1
Tuberculosis .....	102	164	181
Tularemia .....	2	2	5
Amebic dysentery.....	1	10	4
Malaria .....	0	0	0
Influenza .....	9,055	935	1,039
Smallpox .....	0	0	0
Measles .....	368	426	1,153
Poliomyelitis .....	1	0	2
Encephalitis .....	1	3	2
Chickenpox .....	170	252	274
Typhus fever.....	0	1	0
Mumps .....	291	268	218
Cancer .....	390	814	395
Pellagra .....	0	0	0
Pneumonia .....	521	345	271
Syphilis .....	160	173	174
Chancroid .....	2	4	6
Gonorrhea .....	291	280	299
Rabies—Human cases.....	0	0	0
Pos. animal heads.....	6	11	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.



BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

SPECIMENS EXAMINED

April 1960

Examinations for malaria.....	24
Examinations for diphtheria bacilli and Vincent's .....	70
Agglutination tests.....	487
Typhoid cultures (blood, feces and urine).....	527
Brucella cultures.....	3
Examinations for intestinal parasites .....	3,514
Darkfield examinations.....	2
Serologic tests for syphilis (blood and spinal fluid).....	22,278
Examinations for gonococci.....	1,744
Complement fixation tests.....	105
Examinations for tubercle bacilli .....	3,654
Examinations for Negri bodies (smears & animal inoculations).....	218
Water examinations.....	1,796
Milk and dairy products examinations .....	4,074
Miscellaneous examinations.....	2,930
Total.....	41,426

NOTE: Mobile Branch Laboratory examinations not included.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS FOR FEBRUARY 1960, AND COMPARATIVE DATA

Live Births Deaths Causes of Death	Number Registered During February 1960			Rates* (Annual Basis)		
	Total	White	Non-White	1960	1959	1958
Live births.....	6,393	3,984	2,409	21.8	25.8	24.2
Deaths .....	2,954	1,802	1,152	11.4	9.5	11.4
Fetal deaths.....	132	58	74	20.2	21.9	18.7
Infant deaths.....						
under one month.....	100	54	46	15.6	20.3	19.7
under one year.....	193	83	110	30.2	37.1	43.4
Maternal deaths.....	4	2	2	6.1	6.1	9.9
Causes of Death.....						
Tuberculosis, 001-019.....	41	23	18	15.9	11.3	11.0
Syphilis, 020-029.....	7	2	5	2.7	1.6	5.7
Dysentery, 045-048.....	2	2		0.8	0.4	0.4
Diphtheria, 055.....						
Whooping cough, 056.....					0.8	0.8
Meningococcal infections, 057.....	3	2	1	1.2	0.8	1.6
Poliomyelitis, 080, 081.....						
Measles, 085.....	1	1		0.4	0.4	
Malignant neoplasms, 140-205.....	275	202	73	106.5	113.6	107.0
Diabetes mellitus, 260.....	55	31	24	21.3	12.1	13.5
Pellagra, 281.....					0.8	0.4
Vascular lesions of central nervous system, 330-334.....	413	233	180	160.0	131.4	151.1
Rheumatic fever, 400-402.....	1		1	0.4	0.4	1.2
Diseases of the heart, 410-443.....	1,013	676	337	392.4	314.9	384.7
Hypertension with heart disease, 440-443.....	177	87	90	62.6	55.8	71.5
Diseases of the arteries, 450-456.....	70	33	37	27.1	22.6	29.4
Influenza, 480-483.....	134	71	63	51.9	6.1	26.5
Pneumonia, all forms, 490-493.....	152	84	68	58.9	31.1	71.0
Bronchitis, 500-502.....	7	5	2	2.7	3.6	6.1
Appendicitis, 550-553.....	3	2	1	1.2	1.2	
Intestinal obstruction and hernia, 560, 561, 570.....	11	6	5	4.3	2.6	3.3
Gastro-enteritis and colitis, under 2, 571.0, 764.....	14	3	11	5.4	4.0	5.3
Cirrhosis of liver, 581.....	20	15	5	7.7	6.9	4.5
Diseases of pregnancy and childbirth, 640-689.....	4	2	2	6.1	6.1	9.9
Congenital malformations, 750-759.....	25	15	10	3.9	5.2	5.1
Immaturity at birth, 774-776.....	28	14	14	4.4	7.0	5.9
Accidents, total, 800-962.....	150	92	58	58.1	71.1	72.3
Motor vehicle accidents, 810-835, 960.....	51	36	15	19.8	25.5	23.7
All other defined causes.....	374	231	143	144.9	137.4	161.3
Ill-defined and unknown causes, 780-793, 795.....	151	57	94	58.5	46.1	55.1

Rates: Birth and death—per 1,000 population  
Infant deaths—per 1,000 live births  
Fetal deaths—per 1,000 deliveries  
Maternal deaths—per 10,000 deliveries  
Deaths from specified causes—per 100,000 population



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## THE JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Volume 29

July 1959-June 1960

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